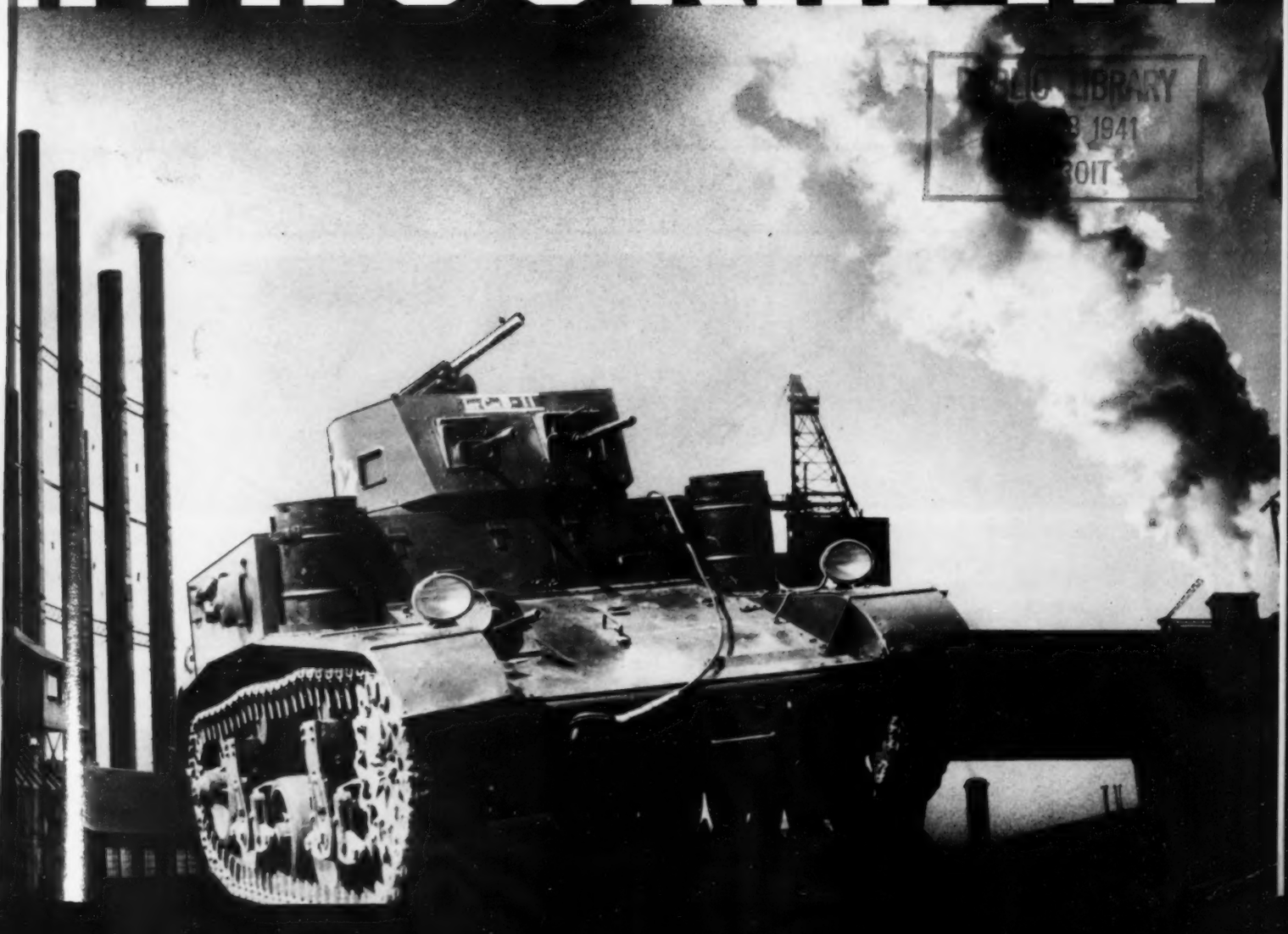
MODERN

LITHOGRAPHY

OCTOBER • 1941 • VOL. 9 • NO. 10



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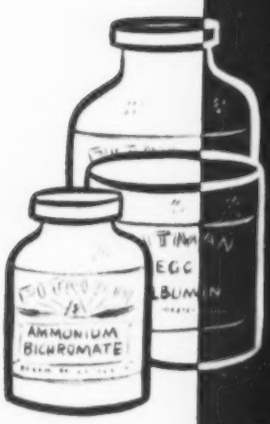

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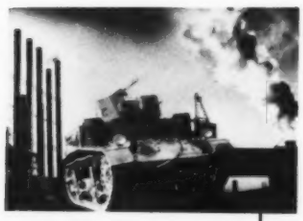

THE COVER

How the problem of guns versus butter is being met by the lithographic industry is discussed on page 27, and in the lead editorial on page 17.

October, 1941
Volume 9 No. 10

Although it is quite probable that the total picture has changed somewhat since the original remarks were given, at the same time the "Raw Materials Symposium" in this issue is without a doubt the broadest and most comprehensive discussion of the supply problems facing the lithographers today to be published up to now. We heard someone remark apropos of the symposium, and prior its being held, that there wasn't much a supplier could say except "There aren't any materials." Well, the suppliers who participated in the symposium said a great deal more than that, and to our way of thinking their contribution to the NAPL Convention last month was a major highlight. (*Page 27*)

Last month our monthly column, "Defense and Lithography," carried a fairly detailed account of why a shortage in paper has ostensibly existed and what conditions may be in the future. We are glad to be able to follow up this month with a resume of some of the raw material factors affecting the supply of litho inks and chemicals. While chemicals have been briefly discussed in previous issues, this is the first thorough job that has been done since the emergency began. And so far as the situation affecting litho inks is concerned, our review this month is the first truly informative article that has yet appeared. (*Page 36*)

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MODERN LITHOGRAPHY
Reg. U. S. Pat. Office

GRANT A. DORLAND, *President;* IRA P. MACNAIR, *Vice-President;* WAYNE E. DORLAND, *Secretary-Treasurer.* RICHARD ROLEY, *Editor.* Published monthly on the 15th by The Photo-Lithographer, Inc., Publication Office, 3201 Arch St., Philadelphia, Pa. Advertising and Editorial Office, 254 W. 31st St., New York, N. Y. ADVERTISING RATES: Advertising rates made known on application. Closing date for copy—20th of the month previous to date of issue. SUBSCRIPTION RATES: $3.00 per year in the United States, $4.00 per year in Canada. Single copies, 30 cents. Entered as second class matter at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879.

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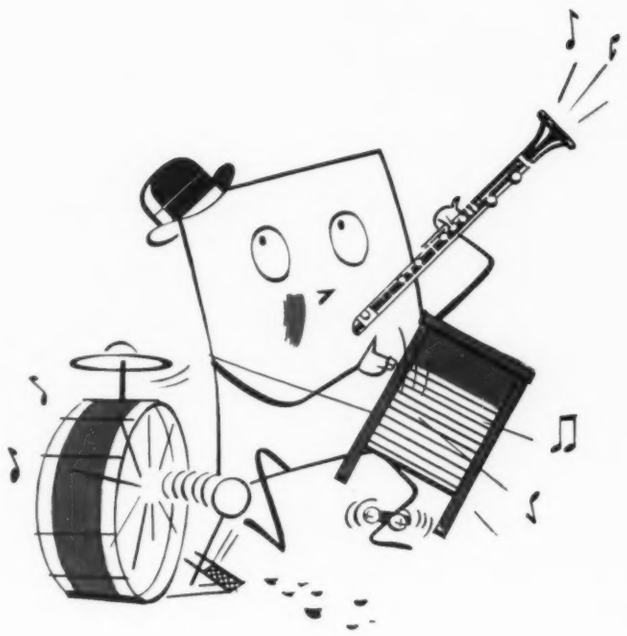

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Dale Nichols, the noted painter-author wrote the text which explains directly and completely how to illuminate your letterhead.

The twenty demonstrations illustrating how to "light up your letterhead" were produced by twenty different well-known designers, all working under Mr. Nichols' direction.

Two pages of envelope corner cards, adaptations from the letterhead designs in the book . . . eight corner cards in all, each for a different size envelope, show you how to produce effective and appealing letterhead-envelope combinations.

Distribution is limited to users of Fox River Papers, to protect loyal customers who are entitled to selling assistance.

From Fox River comes this really practical Sales Plan that gives you a new and different approach to customers and prospects. Your letterheads will take on new life and become newly profitable if they are based on this fundamentally sound Plan that is so revolutionary, yet so right.

"Light Up Your Letterhead" is the name of the elaborate demonstration book which is the principal part of the Plan. This book tells you and shows you how to create letterheads that will enable your customers to "step out" with "illuminated" letterheads—headings that will attract and please the people who receive them. The theory of this technique is not restricted to letterheads only, but can be adapted to envelopes and all office forms.

"Light Up Your Letterhead" is *not* advertising for a paper mill. It is a Sales Tool—one that you might have produced yourself to increase your letterhead business. You must see it to appreciate what it can do for you and your customers—to understand what a help it is to users of Fox River Papers.

FOR USERS OF FOX RIVER PAPERS ONLY. "Light Up Your Letterhead" is sponsored by the Fox River Paper Corporation to help loyal users of its papers. It is *not* distributed freely to prospective lithographer customers . . . because it is intended as a means of *working with* our customers, not *working on* prospective customers. Even though you may not be a consistent user of Fox River Papers, you should see this Sales Plan. At your request we will be happy to have it shown to you.

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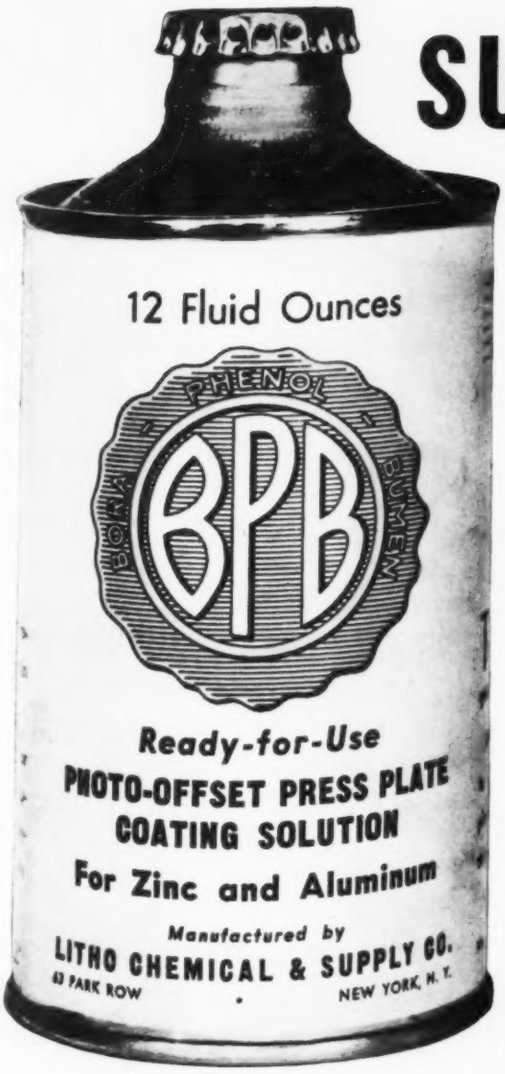

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What they are saying about the Letterhead Clinic

"As creative printers, we do appreciate this help and feel that it is a successful way to assist printers."

Printer

"Thank you very much for rating our letterhead. Your comments were very helpful, and I am turning the report over to our agency for their information."

Steel Mill

. . . "and we feel that your method of rating is a very sound and efficient one."

Hotel

"Many thanks for your comments and criticism on our letterhead. Your analysis was sincerely appreciated."

Publisher

"Thank you for your analysis of our domestic and foreign letterheads. The information which you gave us is extremely interesting. May I compliment you on the fairness and lack of bias that is apparent throughout these analyses."

Business Machine Manufacturer

The above are unsolicited, voluntary expressions from but a few of the thousands of companies who have taken advantage of the FREE analysis and rating service rendered by The Letterhead Clinic of the Whiting-Plover Paper Company, manufacturers of prestige-building *Permanized* Papers.

MORAL: You can get profitable letterhead business by calling on the Letterhead Clinic to analyze and rate your customers' and prospects' letterheads. The Clinic will provide you with two impressive, effective sales tools — its scientific Analysis Chart for each letterhead rated and the informative, interesting booklet, "Seven Years of Prestige Building" which explains the background and functions of The Clinic . . . tells you how to use it. Remember, this service is FREE . . . it places you under no obligation whatsoever.

Clip the coupon now and let The Clinic help you get *profitable* letterhead business.

Permanized Papers

RAG-CONTENT

THE LETTERHEAD CLINIC
WHITING-PLOVER PAPER COMPANY
14 Whiting Road, Stevens Point, Wisconsin

(10-41)

☐ Send me free booklet, "Seven Years of Prestige Building" that will tell me how to use the free services of The Letterhead Clinic.

☐ Have my *Permanized* Paper Distributor call to discuss The Clinic's free services with me.

*Name*_____

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One of the 16 modern Bingham plants is near you. Depend on Bingham for delivery, economy and quality. Be sure your winter rollers are Bingham Rollers. Call or write the nearest Bingham representative.

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Westvaco Inspirations for Printers is proud to contribute to the forward movement of selling by the power of the printed word and picture. In the pages of this unique publication are displayed many of the choicest of current advertising illustrations and layouts designed to sell products—ideas—service. It is edited for you . . . printed for you . . . and a finished copy is now ready to be handed to you.

If you seek in any way to better your sales records by the simple, forthright process of bettering sales technique through the medium of printed advertising, you'll be delighted with Westvaco Inspirations. It does the job it sets out to do . . . and does it well . . . for You.

You cannot buy Westvaco Inspirations for Printers. It is yours for the asking . . . of your nearest printer. Call him today. Ask him to send you a copy of Number 131—the cover design, "After the Day's Toil", is reproduced at the right.

Printers of America! This insert, with copy exactly as shown above, will appear in the November issues of a group of advertising magazines. Your Westvaco Distributor will, upon request, send you a supply of the current issue, No. 131, in order that you may forward copies, without delay, to those who ask for them.

West Virginia Pulp and Paper Company
New York, Chicago, Philadelphia, San Francisco

AFTER THE DAY'S TOIL, by Vicente Alvarez Dizon, of the Philippine Islands. From International Business Machines Corporation's Collection of Contemporary Art of 79 Countries

WESTVACO INSPIRATIONS FOR PRINTERS NO 131

Every Lithographer Should Belong to Some Trade Association

This is the most critical period the lithographic industry has ever faced. During the next few months and particularly before 1942 is long under way restrictions on the civilian use of paper, metals, chemicals, tools and heavy equipment, in the interests of defense, will have become so severe that the very existence of our industry will be threatened. What can we do about it?

•

WE ARE not being alarmists when we predict extremely difficult days ahead for the lithographic industry. When we say that the very existence of our industry hangs in the balance we are only stating facts that any informed and observant person knows. Some public figure recently stated that priorities and the whole defense emergency program would wipe out one-third of small business. That, of course, is his personal opinion and it is only that, but he echoes the feeling and opinion of many who lack the courage to put their convictions in words. Supposing, just for example, that such an opinion proves to be correct—can you see what that would mean to the lithographic industry—and to *you*?

The only salvation for a small industry such as ours is through the efficient functioning of its trade associations, so that together, they can present a harmonious picture of lithography's needs to the proper officials at Washington. As *individual* lithographers our needs will not be heard, and as so many *separate* and *independent* trade associations our needs will be confused. *Only as an organized industry which has consulted and agreed in advance will our voice be heard by those in authority and our needs recognized.*

We urge all lithographers, therefore, to become the members of *some* trade association, and possibly members of more than one. Naturally, we want and would like to have you as a member of the N. A. P. L. But there are several trade associations in the lithographic industry. We urge you to investigate them all and decide for yourself which one is best adapted to serve your interests. Possibly, as we have said, you may find you would like to belong to more than one. *The important thing is that you become the member of some trade association during these critical times!*

•

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make your <u>own</u> survey

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The whole point is, MODERN LITHOGRAPHY gives you the kind of news and the type of article calculated to help you run your business, if not better, at least more knowingly and with a sharper and fresher insight. No one can tell you how to run your business—because it's *your business*. But a good, snappy, well-edited trade journal like MODERN LITHOGRAPHY can help a lot in a friendly way. Why don't you start the magazine coming regularly today?

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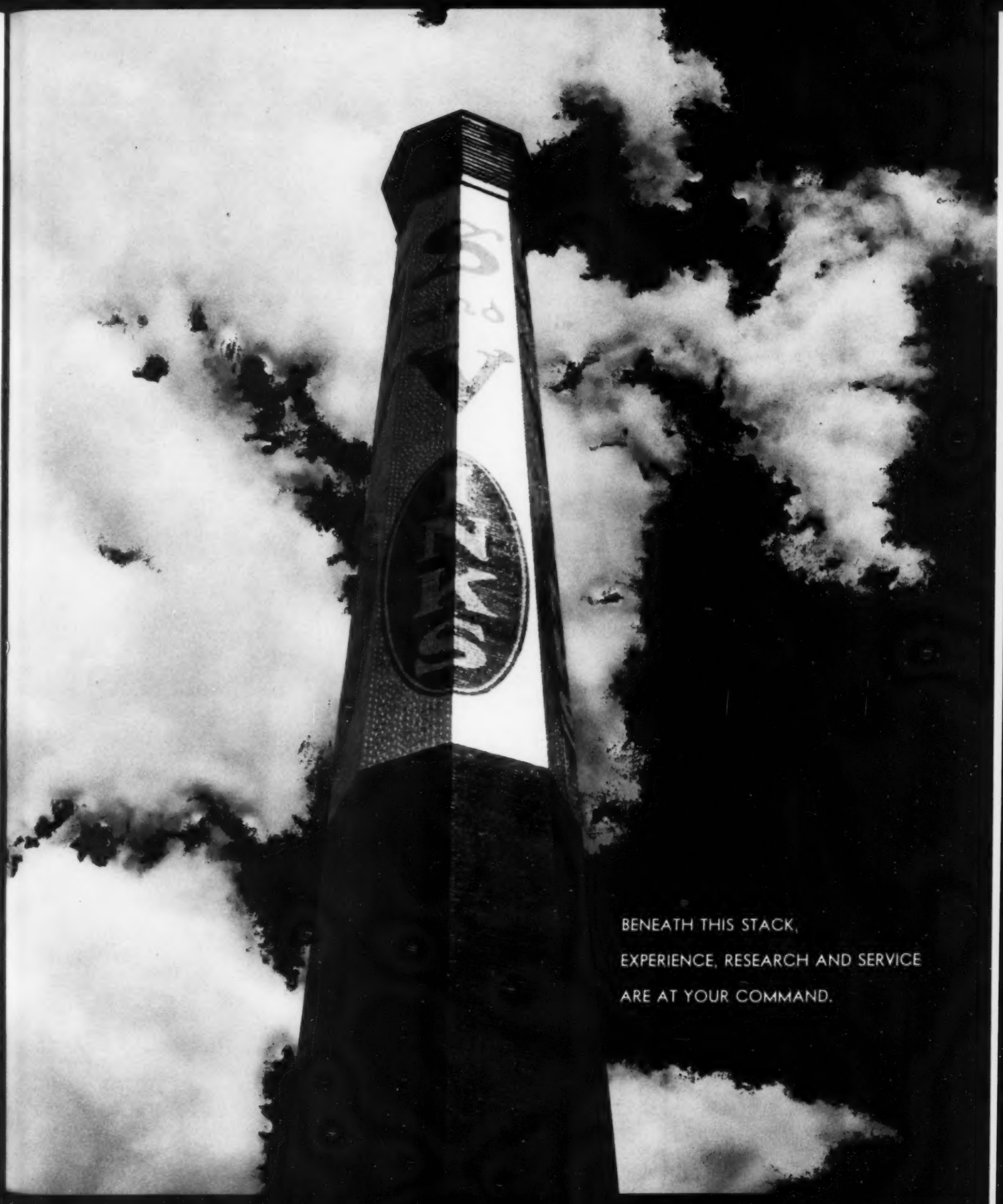

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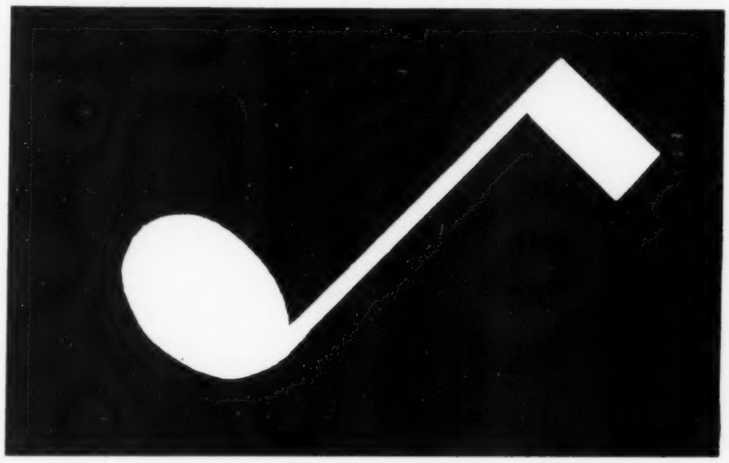

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EDITORIALS

JUDGING by the record attendance, which totaled 683 registrants, the 9th Annual Convention of the National Association of Photo-Lithographers in Cincinnati last month was the most successful in the history of the NAPL. However, as we look back over events in the days just prior to the meeting, events which were charged with a dramatic and uneasy swiftness as all American industry moved to adapt itself to the defense pattern, when, in fact, tentative feelers were being projected from official Washington which plainly signalled bureaucratic control of advertising and, therefore, an end to many forms of lithographed material, it was not so much its overflowing attendance, remarkable as it was, which made the NAPL Convention a success. Rather, it was the positive, healthy response of the entire convention, lithographer and equipment and supply manufacturer alike, to the realities of the current emergency and the even more tightening restrictions which it may bring in the future.

The NAPL convention theme was guns versus butter, lithographically speaking, and it was followed to the letter. Actualities were faced. There was no glossing over the incontrovertible fact that the lithographic industry is faced with an uncertain future so far as availability of raw materials is concerned. There were no fine phrases. A spade was called a spade. As Merle Schaff, retiring president, pointed out, the chief problem confronting the lithographic industry is not how to get more business, but how to get the materials to fill the orders already on hand.

But if the NAPL meeting was short on optimism of the starry-eyed variety, it was equally devoid of down-at-the-mouth pessimism. True, not a few equipment and supply manufacturers held out little hope of being able to obtain strategic materials. However, a careful reading of the remarks offered at the raw materials symposium, carried elsewhere in this issue, indicates that most equipment and supply manufacturers have made plans, at no little expenditure of effort and money, to take care of the lithographer's needs in some way. Some are offering substitute materials, others have taken the lithographer's raw materials problems to Washington and gone to bat for him. Those who have them have put their research laboratories to work in order to keep the lithographic industry supplied. In fact, not one speaker at the symposium failed to contribute something constructive.

The point we would like to make is that the lithographic industry, if it can be judged by the attitude expressed at the NAPL convention, and certainly 683 registrants is no minority, has not been caught flat-footed by the defense emergency. If the lithographic industry can't have "butter," or the materials for producing "butter," it will take what it can get, make the best of it and if not exactly happy over the prospect certainly is not down-hearted either. Could there be better evidence of the healthy, enduring quality of the lithographic industry?

DURING the next few months lithographers will undoubtedly be called upon by trade associations for much factual information regarding their raw material and equipment requirements. Most of the requests will be in the form of questionnaires. It is a temptation to shove a questionnaire aside and wait for a leisurely moment in which to answer it. But the leisurely moment never presents itself and the questionnaire gets kicked around and finally lost. We hope lithographers, for their own good, answer promptly any questionnaires they receive from trade associations. The answers are necessary if a clear picture of the lithographic industry's place in our economy is to be understood by defense officials at Washington. Don't delay. Fill out all questionnaires immediately.

A. G. McCORMICK, JR.

WITH 681 lithographers, equipment and supply manufacturers registered, the ninth annual convention of the National Association of Photo-Lithographers held at the Netherland-Plaza Hotel, Cincinnati, September 18 to 20, was without a doubt the most successful ever held. A. G. McCormick, Jr., McCormick-Armstrong Co., Wichita, Kans., was elected NAPL president, succeeding Merle S. Schaff, of Dando-Schaff Printing & Publishing Co., Philadelphia. Harry E. Brinkman, Foto-Lith, Inc., Cincinnati, was elected vice-president and George E. Loder of National Process Co., New York, was re-elected treasurer. Capt. L. B. Montfort, of Washington, D. C., was retained as legal counsel and Walter E. Soderstrom, New York, as executive secretary. The retiring president, Merle Schaff, was made an ex-officio member of the board.

The entire convention was devoted to a discussion of the national defense emergency and its effect on lithography. Each speaker treated his particular subject from that angle, while a special session composed of equipment and supply manufacturers was held to discuss the effects of the emergency from the raw materials point of view. Mr. Schaff, in his opening address, sounded the keynote of the convention when he said that "unlike preceding conventions, this year finds us in a turmoil of uncertainty concerning the availability of skilled labor and supplies. Today," he pointed out, "the question uppermost in the minds of most is not where lithographers can get orders to produce at a profit, but rather where they can get the men and materials to produce orders already on hand or available."

Mr. Schaff told the convention that the defense program had interrupted the NAPL's agenda somewhat. Said he: "It had been the intention of the association to follow up the Uniform Cost System, which was published last year, with a Productive Hour Index and Sales Manual. However," he said, "the trend of the times has forced us directly into a consideration of the availability of materials, more efficient methods of handling routine work, and consideration of the vital problems of conservation. Therefore, the Sales Manual and Productive Hour Index will have to wait for a return to normal operating conditions."

Describing briefly some of the problems which concerned not only the lithographic industry but the entire graphic arts, Mr. Schaff said that a Graphic Arts Defense Council had been formed, representing seven or more graphic arts associations, of which the NAPL was one. He asked the endorsement of the NAPL membership on the action taken by officers and directors in cooperating with the Graphic Arts Defense Council.

The first speakers on the convention program were A. S. Koch, Keller-Crescent Co., Evansville, Ind., and Rex G. Howard, Peoria Blue Print and Photopress Co., Peoria, Ill. Their subject was "Handling the Paper Work on an Order." Both men's talks were based on extensive studies which they have made over recent years in a survey to

NEW N. A. P. L. PRESIDENT

Wichita, Kansas, lithographer elected at record convention in Cincinnati last month. Harry E. Brinkman becomes vice-president.

determine the most efficient means of expediting work from the time it is brought into the plant by the salesman to the time it is delivered to the customer. Their talks were illustrated by charts and schedule forms which they had devised for this purpose.

A. J. Fay, National Process Co., followed Messrs. Koch and Howard with an address on "Training and Directing a Sales Force." Mr. Fay reviewed briefly how, in his opinion, salesmen should be selected, trained and equipped for specialty selling, general selling, creative selling or service selling. Mr. Fay described how territory and accounts can be equitably distributed among salesmen and how a sales staff is supervised and directed. Particularly interesting in this connection was his discussion of how salesmen at National Process Co. are supported with maps, figures and creative help from the home office. Such phases of the subject as sampling, handling of orders, compensation, and sales contests were also discussed in detail. Mr. Fay's complete talk will appear in the November issue of MODERN LITHOGRAPHY.

A symposium discussion on "Advertising for New Business From the Lithographer's Point of View" was presented by Harry E. Brinkman, president of Foto-Lith, Inc., Allen H. Frost, of Copifyer Lithograph Corp., and Ray M. Collins, A. H. Mathias & Co. Each of the speakers exhibited samples of material which had been used in connection with his firm's advertising promotion, and each lamented the backwardness of most lithographers for failing to use advertising to promote their own businesses. Said Mr. Brinkman, "It must be that lithographers are so close to their own jobs that they fail to comprehend and visualize what the man on the outside would like to know about photo-lithography. "Sensing this situation," he continued, "we decided some time ago that we needed competent and efficient advice in the preparation of our advertising and we, therefore, hired an advertising agency to do the job for us."

Mr. Brinkman pointed out that though it may seem peculiar that a lithographer who maintains a creative department should go outside of his own organization for help, yet it had been found in their own case that an outside viewpoint was es-

sential. Mr. Brinkman said that the advertising campaign for Foto-Lith, Inc. was based on ten fundamental points: (1) History and background of Foto-Lith; (2) Its scope of service; (3) Its organization and physical equipment; (4) Its special abilities; (5) The type of customer it serves; (6) Its achievements; (7) Its financial standing; (8) Its methods of production, including a detailed explanation of lithography; (9) Its price policy; and (10) What it can do for the buyer.

A feature of the first day's convention was the presentation by Alexander Murray and John McMaster, both of Eastman Kodak Co., of two new Eastman developments, the Kodagraph Contact Screen Process and the Kodak Fluorescence Process. Both of these papers are carried complete in this issue.

R. G. PATTERSON, of Agfa Ansco, concluded the first day's formal convention program with an address on "The Importance of Quality in the Photographic Print." The gist of Mr. Patterson's talk was that since the finished lithographed job can be no better than the original, it is imperative that the lithographer take every precaution to secure original copy consistent with the results desired. "It is important," he pointed out, "that the lithographer, from salesman on down, be a competent judge of original copy." His talk included instructions to enable the lithographer to become such a judge. Mr. Patterson's complete address is carried in this issue of MODERN LITHOGRAPHY.

The convention heard the newly-elected NAPL president, A. G. McCormick, Jr., McCormick-Armstrong Co., Wichita, Kansas, the second day of the convention talk on "Suggestions for Setting Up Shop Rules." Inasmuch as McCormick-Armstrong Co. is a combination letterpress and lithographic plant, the rules which the organization has formulated as outlined by Mr. McCormick, were particularly interesting. Mr. McCormick emphasized the point that while production problems were of real importance to the lithographer, the problems of administration and management were no less vital. He said that the practice of holding regional conferences, such as the one at Wichita, Kansas, last year, might well be adopted broadly by the association for the purpose of outlining industry problems which would in turn form the basis for individual organizations' administrative policies.

The latter half of the Friday morning session was taken up with a symposium discussion of the raw materials situation in the lithographic industry as it has been affected by the defense emergency. The following supply and equipment manufacturers addressed the meeting: Blankets and Rollers—H. S. Hunt, Dayton Rubber Manufacturing Co.; H. H. Colehower, Godfrey Roller Co.; B. P. Nilles of Rapid Roller Co.; Chemicals—William H. Bell, Coleman & Bell Co.; William H. Wood, Harris-Seybold-Potter Co.; C. E. Crosby, Mallinckrodt Chemical Works; P. H. Staub of Merck & Co.; Film—R. G. Patterson of Agfa Ansco; Victor W. Hurst, Eastman Kodak Co.; Representative of Hammer Dry Plate & Film Co.; Ink—Robert J. Butler, Fuchs & Lang Manufacturing Co.; Albert Grunder, International Printing Ink Corp.; A. J. Math, Sinclair & Valentine Co.; Paper—Representatives of the Beckett Paper Co. and the Champion Paper & Fibre Co.; Photo-Lithographic Equipment—H. A. Porter, Harris-Seybold-Potter Co.; G. Jim Farmer, Ralph C. Coxhead Corp.; Representatives of Rutherford Machinery Co., Vandercook & Sons, and American Type Founders Sales Corp.; Zinc—William F. Synnott of Illinois Zinc Co.; Aluminum—O. J. Nelson, Aluminum Co. of America. Excerpts from the symposium are included in this issue of MODERN LITHOGRAPHY.

Al Rossotti, Rossotti Lithographing Co., North Bergen, N. J., and Joseph Machell, Stecher-Traung Lithograph Corp., Rochester, N. Y., were the two principal speakers at the Friday afternoon session. Mr. Rossotti spoke on "Control Equipment from Management's Standpoint" and Mr. Machell talked on "Pressroom Problems."

Mr. Rossotti described his experiences from a production point of view as a result of having installed equipment designed to reduce many of the variables in the lithographic manufacturing operation. Such control equipment as air conditioning, pH control, etc., and their effect on operating efficiency were discussed in detail. In his talk on pressroom problems, Mr. Machell pointed out that "the problems of today show

us how lax we have been in studying the problems in our pressrooms." He said that it was extremely important at this time for lithographers to keep accurate records of all materials used. "Complete statistics," said Mr. Machell, "should be kept from previous experiences concerning the amount of materials you use so that you can justify future requirements. Also," he urged, "attempt to use substitute items in place of the present materials wherever possible, because certainly as time goes on there will be an increased shortage of many of our raw materials."

Mr. Machell offered a number of suggestions for coping with lithographic problems which had been tried out at Stecher-Traung's Rochester plant and found helpful. In handling paper in the pressroom, Mr. Machell said, "I have found that where you have air conditioning, a temperature of 75° to 78° and a humidity of 48° to 53° is about as ideal as you will find. Handling of paper by different men, especially new men, should be watched. They should be carefully trained and made to realize that by just moving a pile of paper the register of an entire job can be affected. We should keep statistics on summer and winter room conditions," he added, "because the change in the moisture content of a sheet comes on so suddenly with the change of season that if we have a standard moisture content established we can more easily take care of the ink and drying problems."

Mr. Machell told the meeting of a method that his organization has been using in setting and adjusting ink fountains which has proved successful. "First of all," he said, "an ink fountain should be cleaned at least every two weeks. By that I don't mean simply washing the roller after every job, but removing the blade and cleaning off the particles. Then in replacing the blade, the fountain screw should be turned back in order to clear the blade. The blade should then be set back into the fountain with a .020 sheet of cardboard between the roller and the edge of the blade. The blade is then locked at this point and the screws adjusted from the middle of the fountain to the outer edges, making sure that the screws are set back equally from the center. With regard to damper and form rollers," he went on to say, "everyone has his own particular theory, but I think that a damper set lightly to the vibrating roller and plate with a .010 feeler gauge is a much better system than squeezing the damper too tight, causing excessive wear on both the molleton and the plate. In setting form rollers, always be positive that the steel vibrating drum is absolutely level. This will prevent rollers being set out of parallel, prevent overcrowding and give them longer life."

A special feature of the program on Friday was a luncheon meeting at which Bruce W. Burroughs, district manager of the Priorities Field Service, Cincinnati, gave a talk on "Defense in the Lithographic Industry." Mr. Burroughs gave a general de-

(*Turn to page 65*)

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Philadelphia

SIGHT AND SOUND

Things seen and overheard, with a few minor reflections thereon, at the 9th Annual Convention of the National Association of Photo-Lithographers, Netherland Plaza, Cincinnati, Sept. 18th to 20th.

WE hereby nominate Paul Heideke for U. S. Senator or Congressman or something. He's the best gol' blasted gavel knocker we have ever seen rap a meeting to order. Paul gives three dignified smacks with the mallet, then times the interval between the last smack and a well-delivered gag just long enough to make everyone feel comfortable and unhurried.

* * *

Who was the guy in the ice cream suit and the best ballroom manner at the convention? Come, come, don't tell us you missed Sum Eney and that perfectly knotted bow tie? Wonder, did he ever take it off?

* * *

That was quite a delegation of Canadian lithographers present. There was Jack Staley, of Brigden's Ltd., Toronto; Mr. Chambers of the Commercial Press, Windsor, Ont.; Brothers Armstrong and Lynch of Duncan Litho, in Hamilton; also H. E. Plewman of Howell Litho, in Hamilton; H. R. Larson, of Perfection Litho Ltd., Saskatoon; J. W. Smith and George L. Arsaki, of Somerville Ltd., London, (Can.) and many more. We understand there'll be a Canadian lithographer on the NAPL Board one of these days soon.

* * *

Nice idea arranging those souvenirs all in one box. We understand Harry Brinkman, Foto-Lith, Inc., who had as much to do as anybody we know of in making the convention a success, thought that one up. All the suppliers who contributed favors went for it as one man, which is as much a tribute to Harry's eloquence as his good sense.

* * *

Speaking of favors, did you get a deck of those handsome playing cards Champion gave away? Deluxe, they were.

* * *

Very handsome of the NAPL to present the retiring prex, Merle Schaff, with a set of Macbeth Arc Lamps. Of course, no one who has followed the activities of the NAPL during the past two years, while Merle was president, needs to be reminded of the invaluable contribution he has made toward the progress of the association. His examples of leadership and accomplishment will not soon be forgotten. It was largely his doing that the NAPL devised and adopted a uniform system for handling costs and accounting procedure.

* * *

The lithographers of Cincinnati were glad to have a convention of their own kind in their home town. Members of the NAPL or not, they were all enthusiastic and outspoken in welcoming the visiting firemen. Harold Merten, of Strobridge, and president of the Miami Valley Lithographers Association, invited both Merle Schaff and Walter Soderstrom to address a special meeting of the Miami group and talk about NAPL aims. The result is that both groups have signified their intention of working closely together in the future.

* * *

George Swart, of Swart-Reichel, didn't go home empty-handed. He was the lucky winner of that pH Control Unit contributed by W. A. Taylor Co. as a door prize at the Saturday luncheon. Other lucky door prize winners were Mrs. Arthur Eckert, wife of one of NAPL'S directors, and Manny Rosenberg, of *The Advertiser*. Both won Defense Bonds, which were contributed by the Association.

* * *

Irene Sayre, of the Chicago School of Printing and Lithography, who made such a hit because of her knowledge regarding the more technical phases of lithography, and as an eyeful at the Chicago Convention last year, was back again at the convention this year just as smart and twice as eye-filling.

* * *

Flash! What well-known representative of a used machinery house bought out all the caviar in the Netherland Plaza (and how much would you expect to find in a hotel that didn't even have a spare room) in the course of closing a deal for a non-existent Miehle press? As we get the story, the negotiations lasted until the caviar gave out, with the asking price being boosted every

time the deal was in danger of being closed. The supposed seller, incidentally, proved to be not a lithographer at all but a well-known figure in the paper industry whom we thought everyone knew.

* * *

Rex Howard, head man at Peoria Blueprint & Photopress, and one of NAPL's handsome directors, together with petite Mrs. Howard, for whose favor and glances there was much scrambling among the stags at the banquet, flew to the convention in their own plane. We were about to hear more about the aero-circumnambulations of the flying Howards when some gallant—incidentally, this here guy of which we speak is sure la-da-da with the ladies and if he doesn't stop getting in our hair we're gonna tell all sometime—swept her away.

* * *

George Benton, of the LINA's Chicago office was on hand, attending his first NAPL conclave. Each time we saw George he was having some of the Netherland Plaza's highly touted mid-western food, so it is pretty safe to assume that he enjoyed himself. Another much-in-evidence visitor from the Windy City was Frank Hochegger with, as usual, a fresh stock of yarns.

* * *

Where will the convention be next year? We saw Gordon Hall, secretary of the Associated Printers and Lithographers, St. Louis, at the convention, putting in a plug for his home city. Gordon is sure persuasive about that town. One of St. L's best Chamber of Commerce members. Of course, his real reason for attending the convention was to be present at the Tariff Litho's luncheon meeting at which J. B. Smith, of Photo-Reproduction Corp., presided.

* * *

On the trip to Cincy, we had an excellent opportunity to see how a lithographic executive reads a copy of MODERN LITHOGRAPHY. When we alighted from the plane at Washington for a look around, we discovered that the occupant of the seat in front of ours was Randolph T. Ode, of Providence Lithograph Corp. When we resumed our flight, we brazenly presented him with a copy of the September issue of M. L., remarking something about "some light reading." He thanked us and settled down to look it over. It was too much of a temptation. From our vantage point we could see what he read, and how much time he devoted to the reading. Well, sir, he read the sheet from cover, taking just as much time with the ads as with the text. And when we say "read" we mean just that. There was none of this just leafing through sort of thing. It set us up, if you'll pardon our saying so.

* * *

A bouquet is herewith tossed to Frank Gerhart, advertising manager of Champion Paper, for the efficient and interesting way he handled that trip to Champion's mill. We were shuttled to Hamilton comfortably and enjoyed every minute of the visit. And in that connection, another bunch of posies are due Dan Beckett, of Beckett Paper, for his graciousness in deferring the planned visit to the Beckett mill because of the lateness of the hour.

* * *

Did you go up to F & L's room and see their etchings, pardon us, lithographs? It was a sight to drink in, particularly with Bob Butler behind the bar. At one point during the evening the ice gave out and it was with pleasure and admiration that we listened to Bob tell the hotel manager what he thought of the "service," after what seemed like hours before the fresh ice was delivered. Of course, as you would expect, Lou Tamb, the irrepressible, helped smooth over the ice shortage with some of his stories.

* * *

Glad we bumped into Otis Muckenfuss, of U. S. Printing & Litho. Just like that, he gave us an order for twenty-six subscriptions. . . . Messrs. Squibb, Colehower and Jones, the Godfrey trio, on hand as usual, and again we made a bet with Howard Colehower on the outcome of the Penn-Cornell fracas. Last year we lost, but this year it's gonna be different. . . . We hereby confer the honorary title of Best Dressed Lithographer on Harry Porter, of H-S-P. He's the Adolphe Menjou of our industry. . . Nice idea of H. S. J. Hunt's, Dayton Rubber, to hand out fresh boutonnieres each day, and with such an eyeful pinning 'em on, too. . . . Al Rode, Rode & Brand, was on hand to help demonstrate the LTF's Inkometer. . . . A late arrival, as usual, was Tony Math, Sinclair & Valentine. Tony, when we saw him the night of the banquet seemed to be having a little trouble finding his own dinner. . . . Among the paper manufacturers who took in the Champion trip was Jack Kronenberg, S. D. Warren. . . . Of course, we are always glad to see Carney Valette, Litho Equipment, and especially bowled over whenever Mrs. Valette is around. . . . Ray Collins, A. H. Mathias, ever tell you about the time he got lost in B'klyn? Chances are he never will, he's that ashamed. Ask him anyhow. . . . Did you know that Archie Fay, National Process, is an amateur sleuth of rare accomplishment? It's his avocation, and we're told by those who have been the subject of his sleuthing that few things ever get by him. In fact, they call him "Fay, the Ferret." . . . Did you wonder who the very pretty stenotypist was? It was Bud McCormick's sister-in-law, in case you're still wondering. . . . Hugh R. Adams, president of Roberts & Porter, will bet you good money you can't guess his middle name. We couldn't. Even Harry Grandt, his associate, couldn't name it. It's not Rollo. More than that we won't say. . . . We were somewhat surprised when we finally met up with Norman Mack, Macklin Litho Plate Graining. From the article he wrote for us in March, and from one or two letters, we had the impression for no very good reason that he was a greybeard. Gosh, he's far from that. . . . Funny to run into an old football hero and find that all these years he has been in the litho industry. The guy we're referring to is Ken Crawford, sales manager for Rainbow Litho in Cincy. Back in 1919-20, or thereabouts, Ken was All-Ohio halfback and one of the flashiest, hip-weaving ball-toters ever to walk down the old slant walk at Miami University, Oxford, O.

20

STER

SEYBOLD-POTTER CO.
HARRIS LITHOGRAPHIC CHEMICALS

RAW MATERIALS SYMPOSIUM

Some of the comments on the subject of "Supplying the Lithographic Industry Today and Tomorrow from the Viewpoints of Availability, Delivery and Cost", as delivered at the N. A. P. L. Convention last month.

Chemicals

THE current situation in the chemical market brings to mind the "runs" on small town banks before the day of the Federal deposit insurance. Customers would storm the banks demanding cash. If they couldn't get it, they wanted it. So it is today. Now that many items are disappearing from the market everyone feels he just must have chemicals at once! Soon there is none available at any price.

What each of us must do is substitute, substitute, and buy domestically wherever possible. Whether we like it or not, we are in this war, and it should be apparent to anybody that our industrial economy was never intended to provide everyone in the world with everything he needs while maintaining our supplies to domestic consumers.

The lithographic process is a chemical process and many of the products used by our industry are strategic, or depend for their manufacture on strategic elements or compounds. Many chemicals, not now strategic, may soon become so. Some of the products our industry vitally needs, which are scarce because of government needs or priority orders, are plate metals, chromium salts such as the dichromates, solvents such as the alcohols, egg albumen, organic acids, certain pigments and papers. Other things dependent on factors soon to operate may cause a shortage of phosphoric acid and phosphates, deep-etch developing liquids, hydrocarbons both natural and synthetic, ink resins and varnishes and perhaps other materials.

Plate alloys, of course, are just as useful for airplane construction as for lithography. Chromic acid from which ammonium dichromate is made, is a powerful oxidizing agent useful in flares, incendiary bombs and for chromium electroplating. Alcohols are used in washing and crystallizing explosives. Acids like acetic and formic are made synthetically and the apparatus and raw materials are needed for making explosives. Dried eggs are needed by the Army and Navy as well as the populations of the allied countries, thus leaving little or no egg albumen for lithographic use. Phosphorus is used for making incendiaries and flares and is the parent source of phosphoric acid and the phosphates. Magnesium and ammonium nitrates are dependent on nitric acid which is an essential for the manufacture of explosives like TNT and a host of other modern explosive materials. Chloride salts used in preparing deep-etch developers and etches may become scarce through use of the raw materials in manufacturing alloys or because of a scarcity of strong acids like hydrochloric needed for their manufacture. Hydrocarbons like turpentine are in demand by the allied countries, and all surplus stock will soon be shipped out of the country. Certain resins useful in inks are already being allocated under priorities. White paper production may be decidedly curtailed because of chlorine priorities. Gum arabic must be shipped from the Nile region and until the shipping situation improves, this must remain a material potentially hard to get. Ink pigments dependent on tungsten will disappear.

Now if every one of us rushes out and buys as much of each of the above chemicals or compounds as he can possibly get, there will be absolutely none available within a very few days and many will suffer for the greediness of a few. Most suppliers will allocate, where possible, one-twelfth of a given chemical like ammonium dichromate per month, using as a basis for figuring the buyer's purchases for the period July 1, 1940 to June 30, 1941. That is, the buyer can get each month this year, one-twelfth his total purchases during the last year. Although this will allow for no business expansion, it is probably as equitable a scheme as could be devised, short of controlled rationing.

Each of us, individuals and companies alike must begin an active search for substitutes at once. Alcohol can be conserved by diluting it with non-defense solvents—dichloro-ethyl ether for example. Egg albumen can be replaced by substituting coatings made from less valuable proteins like soya casein.

Gum arabic can be replaced by products native to the North and South American continents. We can abandon deep-etch temporarily if absolutely necessary. We can adapt fewer colors to our printed matter and conserve pigments. We can accustom ourselves to the use of cream-white or brownish paper. Color prints are often very attractive on buff or cream stocks.

Delivery on chemicals and prepared chemical compositions should be as good as in normal times except for priority materials which may be difficult to replace. So far there is little evidence of any profiteering on lithographic chemicals and there should be none. Prices should be raised only when forced by substantially higher raw material costs and higher manufacturing and labor costs. There will be some price increases, of course.

—**William H. Wood**
Director of Chemical Research
Harris-Seybold-Potter Co.

WE do not know definitely what the situation will be with respect to ammonium or nitric acid in thirty, sixty or ninety days hence. Nitric acid is essential to the manufacture of silver nitrate, and you, in turn, depend on that for the development of all sensitized materials. I would hesitate to predict, but we hope we will continue to get it. We are fortunate in view of the fact that the quantity required to keep the lithographic, photo-engraving and photographic industries supplied is very small. Whether the administration will or can recognize the fact that certain key industries in this country require a very small amount of material in order to keep them in operation, and will allocate that material, remains to be seen.

My predecessor has referred to egg albumin and ammonium bichromate. I have before me a communication from the office, which I received yesterday, which represents the best thoughts of our purchasing and production department on some of these items.

Trioxymethylene—this being of the formaldehyde family, will improve or otherwise, according to the ups or downs in the government requirements for plastics and methanol, of which enormous quantities are currently under priority for government requirements. It is hoped there will be a turn for the better.

Hydroquinone — this is another product whose future is intimately

wrapped up in war needs. Manganese and permanganate are two raw material items which are far from plentiful.

Sodium hyposulfite is not expected to become impossible to get.

Bromides will unquestionably be affected by the war situation. Currently the amount of bromine needed by government schedules is vastly in excess of normal supply, and all veins and sources are tapped to capacity so that the most careful management in distributing is very necessary.

Photol and Soda Salts, like sulphide and carbonate, will hardly join the family of "shorts," at least they are not expected to.

—**P. H. Staub**
Merck & Co.

I THINK one of the things we might have overlooked is the carboy shortage for chemicals that might be experienced in the future. At the present time, we are running into a little bit of difficulty in some of our carboy shipments. If you have some empty carboys on hand and will return them to the suppliers, it will help that situation. Also, some of the small bottles are becoming short.

I might mention at this time that domestic production is being started on some chemicals which in the past have been imported materials. Potassium ferricyanide is one, albumin is another.

In regard to the bichromates, the Office of Production Management is trying to control the direction of chromium and its compounds. You are permitted to receive as much as you have bought in 1940, but you have to buy on a monthly basis. The base period for that order is from July 1, 1940, to June 1, 1941. We are limited in our shipments to all our dealers, and they, in turn, are making necessary adjustments. We have to limit our monthly shipments to one-twelfth of what you purchased during the base period.

The albumin situation is due largely to the cutting off of the imports from China and the inability of domestic egg cracking plants to take up that shortage. However, as Mr. Wood mentioned, Armour has started to increase their production, and there are other cracking plants that are being proposed now.

Gum arabic is coming along all right. I think most of you have ample stocks of that. It is coming in as fast as they can get ship bottoms. Also, there is some domestic production of materials that can be substituted for gum arabic.

—**C. E. Crosby**
Mallinckrodt Chemical Works

Aluminum

IN 1941, we have shipped practically no litho sheets made of new metal. We have gone into a business that is known as "toll fabrication"—that is taking the customer's old metal and refabricating it and shipping it back to him in the form of new sheets. We have done quite a bit of it. We did not have a great deal of trouble with our first request. There were quite a number of thousands of pounds approved by OPM which were taken back and fabricated in a period of a few weeks, and helped over the initial crisis.

Later, however, when we thought we had the green light, we went again to OPM, and found that in the meantime the situation had become much more acute. We found that while a few of the requests of the lithographers for refabrication had been approved, they were approved mostly on the basis of national defense. Today, gentlemen, there is no aluminum and will not be for nobody

knows how many more months except for defense.

Those lithographers who are making out questionnaires for toll fabrication, and if their requests are for national defense, will have such toll fabrication agreements accepted as long as we have the capacity and equipment. What is in the future, I do not know. We know, however, it will be a long time before there is any new aluminum for civilian use. Do not sell any for scrap, and we will work with you to our utmost.

Question: Is there any change in the price situation with reference to aluminum?

Answer: Yes, there has been. Three years ago, aluminum sold for 20 cents a pound. It took a drop of one cent in 1939. Then it dropped to 18 cents and 17 cents a year ago. The first of October aluminum ingot will sell on the base price of 15 cents per pound, considerably under prices sold before. We hope 15 cents is not the bottom.

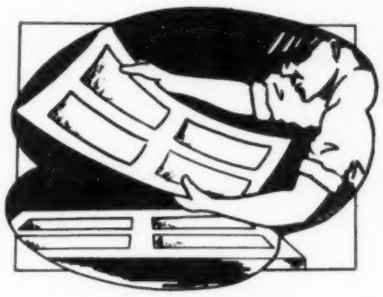
Question: As I understand the situation, the only way a lithographer can get aluminum now is through refabrication of scrap aluminum or aluminum that he already has in his own plant?

Answer: That is quite right. I am glad you are specific on that point. Do not go out and buy castings, old pistons, and don't buy any litho sheets from someone else. When you sign the questionnaire, you sign every question and swear to it. They know all about you. So don't go out and buy sheets from anyone else. If you are really in bad need, maybe your competitor around the corner can help you. Toll fabrication of your own litho sheets is the only thing they will approve.

—**E. J. Nelson**
Aluminum Company of America

Zinc

THE base metal produced from our ores, formally known as smelter, is now known as slab zinc. This has five principle outlets—to the galvanizing industry, to brass manufacturers, to die casting, to zinc rolling, and to zinc oxide. The rolling branch of our industry has the closest connection with your own. There are three zinc mills rolling zinc sheets for offset lithographic plates. Whenever wars break out, metals are in demand and the rolling branch was no different than the rest. The orders poured in on us in unprecedented volume, orders from your industry for offset plates. The



orders came in in such volume that finally it reached the point where if each order was required to take its actual turn on the books, some of you would wait a year or more for deliveries. Others were more fortunate. They got their orders in early.

We obviously recognized that if we followed this procedure, some of your plants would run along at full capacity because you got your orders in early. Others were going to have to close down because they did not have zinc plates. We floundered around for about three months trying to find some satisfactory method of distribution, and finally decided that our own organization was not big enough to make a survey to determine who had the stocks, who needed the plates and who could wait. So we called in the jobbers and told them the condition of our order books and asked them to make such a survey to tell us who actually needed the metal and who had stocks, and to schedule their orders weekly or monthly to us and we, in turn, would schedule those out and make shippings in that order.

The jobbers cooperated with us 100%. We get schedules weekly and we follow them. It may only mean a shipment to some of you of 300 pounds at a time or 600 pounds at a time, but as the gentleman from the Aluminum Company of America told you, metals are scarce and 300 pounds is a big lot these days. We do not know just how successful this method of distribution has been. The jobbers tell us it has worked pretty well, and at least no one has reported to us that they have been forced to close for lack of zinc plates.

Now you are all probably wondering if zinc will continue to be available. That is something we cannot tell you. The demand for the defense program has been great. The demand for civilian uses likewise is great. It has been available up to this point. We, ourselves, operated our lithographic rolls at full capacity, but we do not know whether there will be further government regulations that will take a greater amount of our metal.

You are likewise probably wondering if any provisions have been made to take care of your increased demand. I cannot speak for the whole industry, but I know that at least one additional roll is being put in which will increase lithographic production capacity.

We get a great many orders ourselves that state they are for defense purposes, but as a rule we do not get any substantiating evidence to that effect. Where you have defense orders, I would like to impress on you all that it is very important you cover them with priority certificates and preference ratings. If you do, this enables your supplier to get his raw materials.

As I said before, we will continue to furnish you with zinc, but we cannot give you assurance it will definitely be that way. We hope it will be, and we think it will be. You are probably wondering if there has been any actual increase in zinc capacity. There has been, and to give you a general idea, the monthly production in 1939 of slab zinc, which is the base material, averaged about 44,850 tons. In 1940 this had increased to 58,842 tons, and in 1941, for the first eight months, to over 70,000 tons, with August being the largest production month.

Question: Would it be possible to exchange old plates for new zinc?

Answer: There is a plan whereby you can return your old plates and have them replaced with new plates. My suggestion would be to return your plates to whichever zinc company furnished them to you. That will

give them an opportunity to get their own material back, and they know what is in it.

Question: If you have a plate that has been torn by plate clamps, or fractured and cracked, has anything been done whereby you can get those fixed again so they can be used on the press, without sending them back?

Answer: I have heard of soldering. But the best way would be to cut them down smaller. I don't think there is anything else you can do.

Question: Do you think the government in the future, will stop the practice of sending those old plates back?

Answer: I don't think so. They are anxious to get old metals out of hiding. As long as you have the capacity, and it does not interfere with defense, I don't think they are going to stop that.

Question: In returning 1,000 pounds of metal, does the owner have the right to ask for any size of plates?

Answer: Absolutely, the owner has the right.

—**William F. Synnott**
Illinois Zinc Co.

Photographic Materials

I HAVE just returned from Rochester where they informed me that the possibility of a shortage of film paper plates was rather negligible. For the moment, at least, we see no possibility of a grave shortage in the photographic material line. I might add this one other thing. There has been a tendency of late to attempt to stock up in fear of not being able to obtain photographic materials. As you are aware, photographic materials are dated for one year, and it is not a wise policy to stock up in such supplies. I state with full sincerity and full honesty that there is no immediate danger of a shortage of photographic materials.

—**L. L. Perskie**
Defender Photo Supply

Presses

I WOULD like to speak very briefly on the subject of "planning" because I believe it is vital to all of us in the lithographic industry.

There have been two periods in the twenty-five years just past that offer an amazing contrast in merchandising efforts and results. The first was the wild and enthusiastic era during, and particularly following, the first World War. The second was the resounding crash that swept all of us *out* of the boom of the late twenties into the depression.

I do not believe that either of these extremes is a potential hazard to our present business progress. There are definite reasons why this is true. First of all, all of us are, or should be, much wiser than we were in the past; second, we are all analyzing our markets more closely; third, there is going to be a tremendous rebuilding job to be done in the future; and fourth, changes will be made as a result of conditions and new developments.

Three things control the present business picture at Harris. There is *first* the matter of the availability of machines due to the pressing need of materials for defense; *second*, the matter of delivering what is available; *third*, the cost. None of these three factors can be stabilized right now. Too many things enter into the rapidly changing conditions for that. Schedules are everywhere losing their value.

But unlike the conditions which caught business unprepared at the

close of World War Number One, we have more control now over the various elements in our manufacturing and distribution. We are not making impossible promises, because we have a more comprehensive outlook. Naturally we, like you in the production end, have to use a flexible price range, but even this, under our present planning, varies to a minimum degree.

The press ordered is started under a definite schedule: first, the materials needed and the time they will be available is established; second, the time factor necessary in construction is charted, and, finally, the finished machine, and its delivery are scheduled. There is no guesswork up to this point. A definite promise is made, based on known facts.

However, no one can say with certainty that government demand will increase or decrease, or that materials now available will not be under a government priority tomorrow. Defense, of course, is taking considerable of our production. It is also diverting materials which might normally go into lithographic presses, but careful planning eases the situation and encourages wider opportunity to utilize available facilities with greater efficiency. Perhaps we, as manufacturers, cannot always make prompt delivery, but we try to tell you when delivery *can* be made. I believe the lithographic industry in general might well institute more intensive planning, and thus avoid too much of the extreme "highs" and "lows" which are common in the days when deliveries are affected by growing demands for national defense.

—**Harry Porter**
Harris-Seybold-Potter Co.

UNLESS there is a marked change in the allocation of basic manufacturing supplies, it is apparent that printing equipment manufacturers will shortly be forced to curtail production of their usual products.

The printing equipment industry, because of its machine tool capacity, its supply of trained and semi-trained labor and its knowledge of precision manufacture of intricate machinery, was one of the first to be called into defense production. Large defense contracts have already been placed with the industry and still heavier responsibilities for defense work will undoubtedly be placed upon the industry's shoulders.

Up to this time, the demands upon ATF's production capacity have been met both by an increased staff and extra shifts and by the building of an additional plant. The company's immediate problem, however, is not that of manufacturing capacity, but of the ability to obtain raw materials

which are needed to continue normal production.

The lithographic industry has not been granted and probably cannot hope for a grant of priority by the Office of Production Management in the matter of new machinery. There is good reason to hope, however, that sufficient raw materials will be made available to equipment manufacturers in order to permit repair parts to be supplied where needed in order to keep the present plant capacity of the lithographic industry in operation.

So far prices of printing equipment have been advanced only moderately. This has been made necessary by current wage increases and by the rising cost of materials. There has certainly been no attempt on the part of any of the important equipment manufacturers to take advantage of the present situation to boost prices unreasonably. Price, indeed, is not a major factor in the current problem, for the equipment manufacturer could not produce any more or any faster even though he should increase prices two- or threefold.

What it boils down to from the point of view of the lithographer is that he must "make do" to a very large extent, so long as the national emergency continues, with the equipment that is already available to him. Expansion must take the form of increased efficiency of plant operation and of more continuous use of present equipment.

—**Tom Jones**
American Type Founders

Litho Inks

ABOUT six months after the war started, we organized an emergency committee to look after the interests of our industry. In the fall of 1940, there was suddenly a shortage of aluminum powder, and gradually sales of this powder were cut down and finally we are no longer able to obtain it. In the spring of this year, we cooperated closely with the color industries in an effort to prevent any cut in the use of chromium. That move was successful, although, of course, most of the work was done by the color and other chemical industries. Another item that came up and was brought to our attention was sodium tungstates. It is an important item in the manufacturing of permanent clean colors in the litho industry. We were called to Washington for a con-

ference on the matter. We conferred with five representatives of the government, and after considerable discussion, they said, "Why can't you do without sodium tungstates. You did not have them up to twenty-two years ago. Why is it necessary now?" We argued the point that they are very necessary, particularly to the lithographic industry. We used the lithographic industry almost entirely as the basis of our argument. Finally, they told us they would have to cut us to some extent because they were unable to allow anybody to use exactly the same amount of tungstate as they used before due to the fact that 7,500 tons of ores necessary in manufacturing steel are used in this country annually. We pointed out to them that we required only 150 tons. They said they could not allow that much, and asked how much we could do with. We suggested then that they might offer a percentage of reduction. So they had a conference right in our presence, and discussed 20% reduction, 15% and 10%, and finally decided on 10%, so we agreed we could get along with a 10% reduction. We are now on a monthly quota of 90% of our monthly purchases of the previous twelve months.

Another proposition that came up recently was the question of the use of formaldehyde in the manufacture of synthetic resins. We sent a committee to Washington to appear before the OPM Board, and as a result of that conference, the OPM put us in a first civilian rating. Now, of course, when you consider there is probably about 40 or 50 defense and semi-defense ratings, a first civilian rating does not mean much. But it was the best we could hope for on a product like formaldehyde.

There is one point I would like to bring out here. It is absolutely necessary for every industry to have a committee to look out for their interests in Washington. We believe that private industries should be allowed to assist, and we feel that OPM believes the same way. The more private industry is allowed to operate and pay taxes, the better off government will be. I submit to you today the idea that we should cooperate. The NAPL, together with the other associations in the Graphic Arts Industry, should cooperate with OPM in an effort to convince the government that we are absolutely necessary and that we should be able to carry on our activities.

—**A. J. Math**
Sinclair & Valentine Co.

I KNOW you are all interested in knowing what to expect in the way of increases in costs due to the shortages, and threatened shortages. Inasmuch as time is very short right now, I will briefly go over the various materials that have been boosted in price, and give you approximately the percentages you may expect to pay in the near future.

In the tungstated colors, which, of course, includes tungstated violets, greens and reds, the percentage of increase is about 15%; on cadmium colors, about 10%; and on chrome yellows and oranges, the price increase is only 7.4% at the present time. As you have heard before, bichromate is going to be used for the defense program. You also know that lead and acetic acid are all being used in the defense industries, and for that reason, there is bound to be a shortage of lead chromates. On the other hand, there is another reason for this. Some of the dry color manufacturers tell us the government has subsidized a great proportion of their equipment with which they are at the present time making lead chromates for the manufacture of zinc chromate which darkens dies for paint to be used on

(*Turn to page 57*)

KODAGRAPH CONTACT SCREEN PROCESS

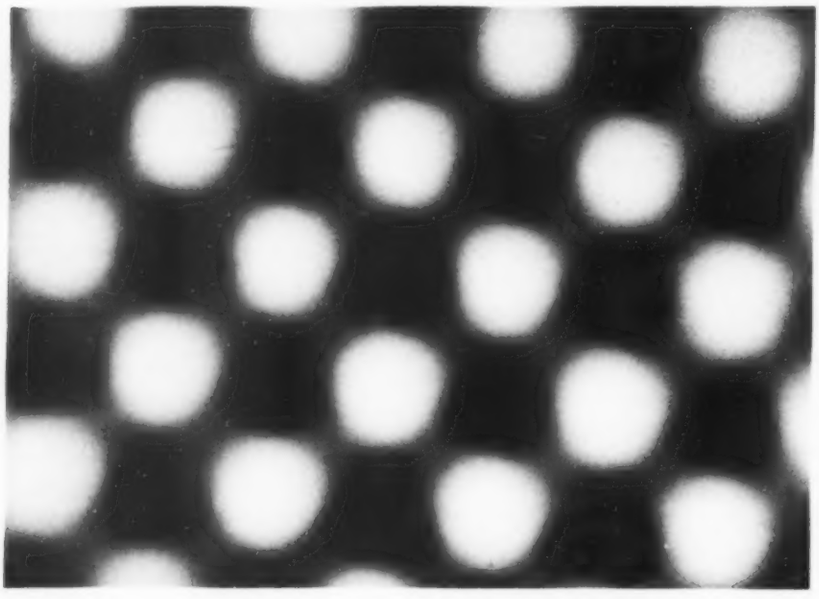
THE conventional method of making half-tone negatives and positives for photomechanical reproduction has remained practically unchanged since the introduction of the cross-line screen over fifty years ago. The copy is placed in front of a process camera and a photograph consisting of minute dots varying in size is produced by interposing the cross-line screen a fraction of an inch ahead of the sensitized material. Of necessity, the half-tone image is required for processes such as photo-engraving, photo-lithography, and certain adaptations of photo-gravure. While acceptable results have been obtained by this procedure over the last half century, many weaknesses have been recognized by photo-mechanical workers. Tone rendering is far from perfect; control of contrast is difficult; fine lines are rendered unsharp and half-tone exposures are comparatively long.

The Kodak Research Laboratories have been studying these shortcomings for several years and, as a result of this work, have developed a method for eliminating these objections. Here the Kodagraph Contact Screen Process is described for the first time and instructions are given for a completely new method of attack on an old problem.

The following advantages are derived from the use of the Kodagraph Contact Screens:

(1) Sharpness of detail in the reproduction is better than with a conventional half-tone screen, especially with rulings finer than 100 lines per inch.
(2) Improved tone reproduction is automatically obtained.
(3) Dot formation is independent of the contrast of the negative. Contrast of the screen positive may be altered without affecting dot formation.
(4) Much less camera time is required for each piece of copy.
(5) "Highlighted" screen positives are easily made.

Fig. 2
Magnified section of Kodagraph Contact Screen, showing dot pattern.



Synopsis of the Process

A continuous tone magenta negative is made in the camera from the original. This is printed by contact through a Kodagraph Contact Screen in a vacuum printing frame onto Kodalith Ortho Film, Kodalith Thin Base Film, or Kodalith Transparent Stripping Film, contrast being controlled by the use of color filters over the exposing light. A screen positive is thus obtained which may be used directly for deep-etch lithography. In processes where a screen negative is required, a contact print is made from the positive or the positive may be reversed photographically. The present screens are not intended for making screen negatives.

This continuous tone magenta negative is produced from the original by development in Kodagraph Contact Screen Process Magenta Developer. The dye image is formed together with a light silver image. After the negative is fixed, this silver image is bleached out, leaving the

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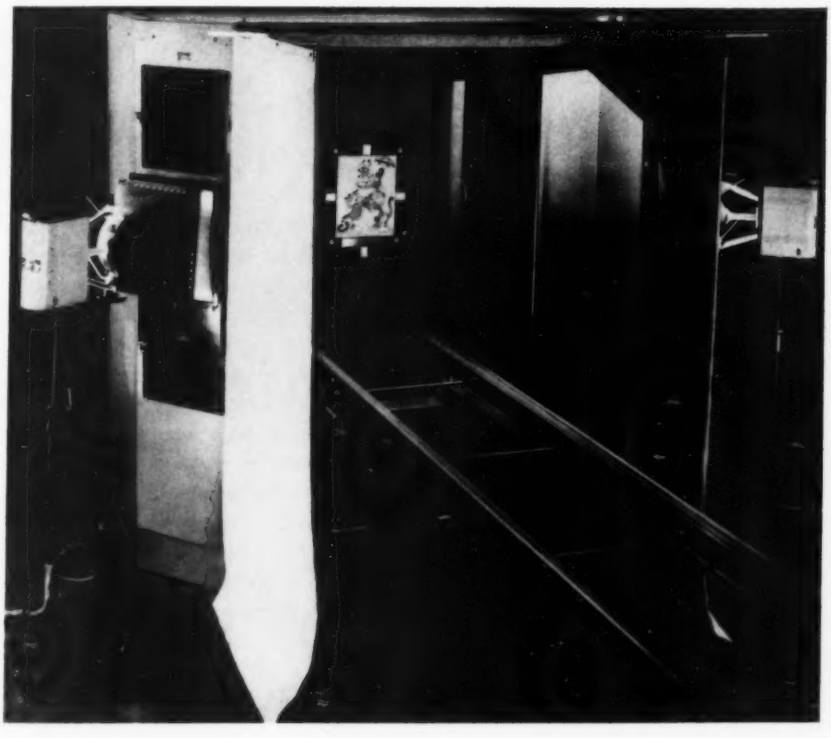
KODAK FLUORESCENCE PROCESS

Two new Eastman developments introduced last month at the N. A. P. L. Convention

IN recent years attention has been focused on photographic methods of effecting color correction in photomechanical reproduction. The desirability of carrying out the work in this manner has been recognized by the Eastman Kodak Company, and as early as 1935 complete instructions were given for photographic masking. The booklet, "The Modern Masking Method of Correct Color Reproduction," explained in detail the procedures necessary for accomplishing the work, and described for the first time the application of a densitometer as an aid in controlling the making of negatives, masks, and positives.

Other methods have been investigated. Many of these have to do with the preparation of the copy. As a result, the Kodak Fluorescence Process has been developed. With this new process the making of full-color photomechanical reproductions takes a long stride forward. Separation negatives are made from specially prepared wash drawings or sketches which fluoresce in ultra-violet light. This fluorescence—the heart of the process—improves the "red" and yellow printers to such an extent that virtually complete color correction is achieved. This is due to the fact that the water colors used in the process have been treated to make them fluoresce brightly under ultra-violet light. When separation negatives are made from these sketches extra density is added to those negatives which require color correction.

Kodagraph Copyboard Hood



Complete sets of Kodak Fluorescent Water Colors have been made available. Equipment for supplying the correct copyboard illumination is found in the Kodagraph Copyboard Hood and Kodagraph Copyboard Filter Holders. These exclude extraneous light and provide the means for filtering the light from single or double deck arc lamps. An adjustable slit to hold compensating filters in a variety of combinations makes it easy to arrive at the proper adjustment of the ultra-violet, blue-violet, and green light required to derive full benefit from the fluorescence. The same adjustment holds

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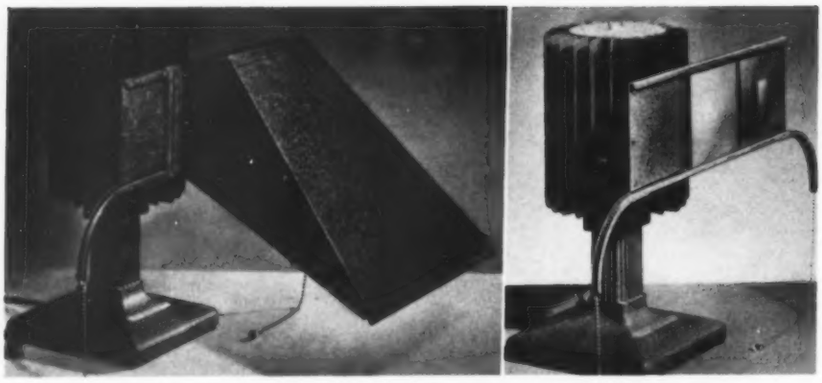

The Kodagraph Contact Screen Printing Lamp is equipped with a filter holder and two 4 x 4-inch filters, magenta and yellow, for use in controlling contrast in the screen positive. A special hooded mirror directs the light downward when the vacuum printing frame is used in a horizontal position.

optically clear magenta image. Kodagraph Commercial Screen Film antihalation is especially recommended for this process. The emulsion will not produce colored striations or a dye fog. Eastman Commercial Film is not suitable for this process.

To obtain maximum sharpness, a good process lens should be used at an aperture no smaller than f/22. With two 35-ampere arcs at six feet from the copy, same size reproduction, the Commercial Screen film requires about 1 minute exposure. Complete instructions for color work will be given at a later date.

Processing Magenta Negatives

(1) Develop in a tray of Kodagraph Contact Screen Process Magenta Developer 3 to 6 minutes at 65° F.

Warning: This product contains 5% or more of an aromatic amine which may cause irritation if the powder or its solution comes in contact with the skin or open cuts or if its dust is breathed. Use rubber gloves to handle the product, and avoid breathing its dust. Eastman Kodak Company will not be responsible for any skin or other ailments caused by this product.

(2) Rinse quickly with water to remove excess developer, and then wash for 1 or 2 minutes in a stop bath consisting of a 0.1 per cent solution of Kodak Benzotriazole.*

*Kodak Benzotriazole is supplied in 8-ounce bottles of 0.2 per cent solution or the solid chemical is supplied in a 117-grain package sufficient to make one gallon of 0.2% solution.

This may be made by diluting a 1 per cent stock solution. Do not use an acid stop bath or a permanent yellow stain will be formed.

(3) Fix in F-5 until, when examined by reflected light from the back, the creamy silver salt has disappeared. The time of fixing can be reduced to one-third by using Eastman Concentrated X-ray Fixing Solution. The negative will not become perfectly clear at this stage, even when completely fixed.

(4) Rinse for 1 or 2 minutes in running water and then bleach for 3 to 4 minutes in the Special Bleach Bath (Fig. 1). The negative should become clear if the fixing is complete. If a surface scum remains, remove by swabbing with cotton.

(5) Rinse, and harden by returning to the fixing bath for 5 to 6 minutes.

(6) Wash from one-half to one hour to remove hypo and any yellow stain.

Fig. 1

Special Bleach Bath Formula for Magenta Negatives

Solution A	*Metric*
Warm water (125° F.)	1500 cc.
Sodium Sulfate	200 gm.
Sodium Carbonate	200 gm.
Potassium Ferricyanide	75 gm.
Water to make	2000 cc.
Solution B	*Metric*
Warm water (125° F.)	1500 cc.
Sodium Sulfate	200 gm.
Sodium Thiosulfate (Hypo)	100 gm.
Water to make	2000 cc.

For use, mix one part A with one part of B. Do not dilute.

The density range of the magenta negative should be between 1.3 and 2.0, measured through a Wratten No. 61 filter, and the minimum density should be between 0.3 and 0.6 for Commercial Screen film. Owing to the darkness of the No. 61 filter, density measurements should not be made in brightly lighted rooms. At high densities a pale yellowish tint may appear, so that some practice will be necessary to read these at first.

Making Screen Positives

HALF-TONE positives are made from a continuous tone magenta negative and a Kodagraph Contact Screen, as shown in Figure 2. The screen consists of vignetted dots, dark orange in color, on safety film base. It is placed in a vacuum printing frame over a sheet of Kodalith Ortho Film, Kodalith Thin Base Film, or Kodalith Transparent Stripping Film, emulsion to emulsion, and the magenta negative placed emulsion side down over the screen. All surfaces should be dusted carefully with a camel's hair brush before the films are placed in the printing frame.

Exposure is made at a distance of 4 to 6 feet from a Kodagraph Printing Lamp (500 watt, T-20 projection lamp). Two filters are used to control contrast: A high contrast screen positive is obtained with a yellow filter, and one of low contrast with a rose filter. Intermediate contrasts are obtained by giving part of the exposure through each filter.

The correct exposures through each filter can be found by the following simple method: Place a small piece of Kodalith film behind the negative and contact screen. Expose to the rose filter, masking off a small strip every 10 seconds, so that the screen positive has strips for 10, 20, 30 and 40 seconds in one direction. Now expose to the yellow filter, masking off exposure steps at right angles to the rose filter steps. When the Kodalith film is developed, the intersecting exposure strips form squares of different contrast and total exposure. If each square has a fairly representative highlight and shadow area, the

operator can quickly determine the location of the correct exposures. After some practice in judging the density range of the magenta negatives, the operator should be able to estimate the exposures rather closely without measurement.

For best results the film should be developed for 3 to 3½ minutes in Kodalith Half-tone Developer at 65° F. The positive dots may be sharpened by a light etching in Kodak Formula R4A (Fig. 3) for 15 seconds. Swab with cotton to promote even dot etching. The Kodagraph Contact Screens are designed to compensate for the loss of contrast in the darkest tones caused by slight overinking. For that reason, a slightly open shadow dot should be the limit in the screen positive.

Kodak R-4a Farmer's Reducer

Stock Solution A	*Avoirdupois*	*Metric*
Kodak Potassium Ferricyanide (Red prussiate)	1¼ ounces	37.5 grams
Water to make	16 ounces	500.0 cc.
Stock Solution B		
Kodak Sodium Thiosulfate (Hypo)	16 ounces	480.0 grams
Water to make	64 ounces	2.0 liters
For use, take:		
Stock Solution A	1 ounce	30.0 cc.
Stock Solution B	4 ounces	120.0 cc.
Water to make	32 ounces	1.0 liter

Add A to B; then add the water and pour over the negative to be reduced. When the negative has been reduced sufficiently, remove and wash thoroughly. The two solutions should not be combined until they are to be used; they will not keep long in combination.

Fig. 3

Kodak SB-1a Acetic Acid Rinse Bath

	Avoirdupois	*Metric*
Water	1 gallon	4 liters
*Kodak Acetic Acid, 28% pure	16 fluid ozs.	500.0 cc.

*To make 28% acetic acid from glacial acetic acid, dilute 3 parts of glacial acetic acid with 8 parts of water.

Fig. 4

Kodak R-9 Bleaching and Clearing Baths

Bleaching Bath: Solution A

	Avoirdupois	*Metric*
Water	1 gallon	1.0 liter
Potassium Bichromate	1¼ ounces	9.4 grams
Sulphuric Acid, C. P. (E. K. Co.)	1½ fluid ozs.	12.0 cc.

Use full strength at 65° to 70° F. (18° to 21° C.).

Clearing Bath: Solution B

	Avoirdupois	*Metric*
Sodium Sulphite, desiccated (E. K. Co.)	12 ounces	90.0 grams
Water to make	1 gallon	1.0 liter

Use full strength at 65° to 70° F. (18° to 21° C.).

Fig. 5

Making Screen Negatives

Screen negatives may be made by contact with the screen positive. It is possible to apply photographic reversal to the half-tone positive during processing. The following procedure is recommended:

(1) After exposure, develop for 5 minutes in Kodalith Prepared Developer or D-85 at 65° F., to which has been added 1 per cent of sodium thiocyanate.
(2) Rinse in acid rinse bath, formula SB-1a. (Fig. 4.)
(3) Bleach for 1 minute in formula R-9, Solution A. (Fig. 5.)
(4) Rinse for one minute in running water. The white lights may be turned on at this point.
(5) Clear in formula R-9, Solution B, for 1 minute. (Fig. 5.)
(6) Rinse for 1 minute in running water.
(7) Expose and then redevelop for 2 minutes in Kodalith Prepared Developer at 65° F.
(8) Rinse in SB-1a (Fig. 4) and fix *for 2 minutes* in F-5. (Fig. 6.)
(9) Wash and dry.

Care of Kodagraph Screens

THE screens, made on safety film base, are supplied in an appropriate container which protects the two surfaces from abrasion during shipping and storing. All care should be taken in handling the screens to prevent scratching from dirt particles or other sharp edges. Do not allow them to come in contact with solutions of any kind. They should be cleaned with a camel's hair brush before placing in the vacuum printing frame. When the screens are not in use, they should be dusted off and returned to the original container. If necessary the screens may be wiped with a plush pad moistened with Kodak Cine Film Cleaner to remove small particles of dirt or other foreign substances.

If the above suggestions are followed, a longer life is assured for the screens.

Special Materials for the Process

1. Kodagraph Contact Screens

Maximum size 24″ x 24″ with an additional margin of ½″ on all sides. Supplied in screen rulings of 120, 133 and 150 lines per inch and in sizes 11″ x 14″, 14″ x 17″, 16″ x 20″ and 24″ x 24″.

2. Kodagraph Contact Screen Process Magenta Developer

This special dye-coupler devel-

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Defense and Lithography

Please bear in mind that the defense picture is a rapidly changing one and that this is a monthly report. The facts reported herein represent the latest available information at the time of going to press. They may change overnight.

INK AND CHEMICALS

MARK TWAIN'S remark about the weather to the effect that everybody talks about it but nobody does anything about it applies to the shortage of lithographic chemicals with equal truth. Lithographers who have taken chemicals pretty much for granted for the last twenty odd years have suddenly discovered that the lack of a few ounces of this chemical or that chemical may be just as embarrassing to their business as the lack of the same number of tons of paper.

The reasons given for sudden scarcities of important chemicals are sometimes amusing and almost always interesting. The following summary of chemicals likely to be found A. W. O. L. and the reasons therefor cannot be assumed to be accurate for the reason that this is written nearly three weeks in advance of publication and the picture often changes radically in that length of time. Not only that, but no two authorities are willing to agree on the reasons for scarcities. It is no more than fair to say, however, that chemical prices have been astonishingly stable and many chemicals have become scarce to the point of vanishing without having increased in price.

Here, then, is a check list of chemicals which are or probably will be on the hard-to-get list.

*ACETONE—Practically unobtainable.

ACIDS

**Acetic*—All grades, although the 28% seems to be a little easier than the more concentrated grades. Reason: Used in manufacture of aspirin which is used by business men to help their headaches. Other reasons: Apparatus in which synthetic acetic acid is made is being used for manufacture of methanol. Substitutes: Citric acid, tartaric acid, both of which are harder to get than acetic.

Boric—Was tight on account of strike on West Coast. Situation at present seems better and may improve even more.

Citric—Quite scarce, but there will probably be enough to go around. Reason: Is being used very largely in place of acetic and tartaric, especially in foods.

Muriatic (*Hydrochloric*)—This acid is becoming quite scarce probably because sulphuric is used in its manufacture.

Nitric—This one will be very hard to get very soon. Reason: Used extensively in nitrating cotton to get smokeless powder. The government is building tremendous powder mills which are just beginning to get into production.

Phosphoric—Things look bad for this acid, although there is still some supply. Reason: Phosphorous is used in incendiary bombs and flares as well as in many food products.

Sulphuric—This is the acid that is used everywhere in the chemical industry. The present shortage does not affect lithographers directly but will indirectly because lack of sulphuric acid will hold up the production of many other chemicals.

Tartaric—Very scarce and that goes for the tartrates as well. Reason: An import which has not been getting here. This was one of the first to become scarce and citric, acetic, and phosphoric, which might be substituted in some cases, also became hard to get.

ALBUMEN—There is still some albumen available both imported and domestic. Quality is down and prices are high. Synthetic and semi-synthetic substitutes can be used in a pinch.

ALCOHOL—There just is not enough of this material to go around.

*These chemicals are sold under some form of government control.

The defense picture as related to lithographic inks and chemicals is reviewed this month. Ken Martin, of Harold M. Pitman Co., is responsible for the views on the chemicals situation, presented in lieu of his regular monthly column, "Technical News and Literature," while the summary of the defense situation regarding litho inks was staff-written.

Reason: Huge quantities are being purchased by the government for explosives. There is no adequate available substitute.

CARBON TETRACHLORIDE—Very scarce. Not much hope in sight until the chlorine situation eases.

*CHROMATES including CHROMIC ACID and AMMONIUM BICHROMATE—The government is very much interested in all compounds containing chromium. At the present time, these materials are being rationed. The lithographic demand is chiefly for bichromate of ammonia, and because the amounts consumed by the industry are relatively small it is likely that supplies will be maintained.

*FORMALDEHYDE and PARAFORMALDEHYDE—There is a bad situation here. Paraformaldehyde is made from formaldehyde which, in turn, is important in the manufacture of synthetic resins. The demand for synthetic resins has increased because they are being substituted for hard-to-get metals. Of course, it is possible to use other developer formulas which do not require the use of paraformaldehyde.

POTASSIUM FERRICYANIDE—One of the first materials to become hard to get. Prices are high and will probably continue to be high. Reason: Practically all the potassium ferricyanide used is imported. There is a satisfactory substitute.

POTASSIUM METABISULPHITE—Same as potassium permanganate.

*POTASSIUM PERMANGANATE—All potassium salts are relatively scarce. The strike mentioned under Boric Acid was a factor in making the scarcity acute.

—**Kenneth W. Martin**

LITHOGRAPHERS have been so much concerned over recent months about future supplies of zinc and aluminum, lithographic chemicals and paper, that they have not had much time to get excited about the supply of inks which was their most serious problem in World War Number 1. At the outbreak of the first World War the United States had almost no appreciable production of dyes and colors, being almost entirely dependent on imports, largely from Germany. Thus, when imports from Europe were cut off, the prices of dyes and colors, and the inks made from them, skyrocketed. Colors which had been selling for a dollar a pound jumped in a few weeks to a hundred dollars a pound. Quality suffered too, and lithographers and printers ran into a barrage of complaints on inks that lacked color strength, inks that faded out in a few weeks or even days when exposed to the sun, inks that did not have adequate alkali and acid-fastness to withstand contact with the chemicals used in the lithographic process.

In the present emergency, ink makers and users are both fortunate in having access to a highly developed and dependable domestic color industry. Perhaps ninety-five per cent of colored inks of American manufacture are and have long been made from American produced dry colors. Some shortages have developed over recent months, particularly where some of the raw materials such as tungsten or ilmenite must come in from abroad, or where defense demands have taken stocks of other essential ink ingredients, but the picture can never be as dark during the present emergency as it was back in the days of the First World War when a whole new domestic color industry had to be built from the ground up.

The outlook for the immediate future is that there will continue to be ample supplies of lithographic inks, although users may have to learn, for a while at least, to get along without some of the newer types that have been developed in recent years based on synthetic resins no longer available. They may have to learn, also, to do without some of the colors combining in one ink all the desirable qualities of brilliance, fastness, concentration, etc. Reds, blues, greens, there will be in abundance, but not necessarily the same inks that have been available up to this time. It will doubtless be necessary for the lithographer to concede a bit on one characteristic or another to allow his ink maker to make the necessary formula adjustments that will eventually be imposed by shortages of some essential raw materials.

What are the most pressing of these raw material shortages that are already complicating the ink maker's problem? Of most importance to the lithographic ink maker, perhaps, are the limited supplies of tungsten. Defense demands for tungsten for use in tungsten steel, coupled with the tight shipping situation (tungsten ore is imported from China), have combined to limit the ink maker's access to this important raw material. The ink trade is currently getting only ninety per cent of the amount of tungsten it used last year, and must spread this supply over a sharply expanded ink production. True, there are ample supplies of domestic molybdenum that can be substituted for tungsten for many ink uses, but molybdate inks never will give quite the brilliant, clean tones in lithographic work that tungstated inks give, for the molybdate colors darken on aging. The lithographer is going to have to anticipate such results, and make allowances for them, as further substitution later becomes necessary.

Silver inks and aluminum powder have, of course, been on the unobtainable list for some time, due to the government demands for aluminum powder for defense purposes. A very tight situation on chrome yellows and greens has also been giving the ink companies much concern, and more recently the dyestuffs for the manufacture of Hansa yellow have been in short supply, adding further complications to the yellow supply situation. On the chrome colors, color manufacturers are finding difficulty in getting adequate supplies of chromite ore, acetic acid and nitric acid, the essential raw materials. They have thus been forced to reduce production and to ration buyers of chrome colors.

Defense demands for cadmium are responsible for another shortage,—in cadmium colors. Both cadmium reds and yellows, because of their resistance to high baking temperatures, have been important colors in metal lithography. The shortage which

has developed threatens to affect tin printers most seriously.

Phthalocyanine blue, a highly concentrated and useful pigment of great tinctorial strength, which has been available for only the past few years, but which has quickly worked itself into an important place in the manufacture of litho inks, is another item on the restricted list. A high percentage of a rather limited production is being taken for defense use, and lithographers who have come to count on its high fade-resistance, exceptional resistance to alkalis and acids, and its superior color strength even in reduced tints, are going to have to go back to the use of less satisfactory blues.

Apart from the colors, ink makers also face a problem growing more acute every day in the supply of whites. Defense demands for titanium oxide, alumina hydrate, white lead, zinc oxide, etc. have expanded tremendously. This has reduced sharply the amounts of such materials available for normal, non-defense purposes. In the case of titanium oxide, too, there has been a raw material shortage, as shipments of the basic ore, ilmenite, must come in from India. This shortage may be relieved in another eight or nine months as soon as a new mine, now being equipped, goes into production. Until that time, and perhaps for some time after, there will continue to be a shortage of white bases on which many colors used in printing inks must be precipitated before use.

Turning to blacks, the outlook, surprisingly enough, is brighter rather than darker. As in the case of other ink making raw materials, there have been several price advances in the past year or two,—four to be exact. These higher costs must eventually be passed along to ink buyers, incidentally, just as the ink maker's higher costs on colors must inescapeably lead to higher prices on colored inks. There is a safe and dependable feeling, however, in the ample domestic production of carbon black, the ink maker's most important and widely used raw material. American production of carbon black for the year 1940 reached the record high level of 568,792,000 pounds.

IT IS true that stocks held by producers are currently none too ample,—standing at only 125,000,000 pounds on June 30, 1941, less than a three-months' supply,—but it is believed that this drop in producers' stocks is merely a result of heavier buying by carbon black users in anticipation of the recent price advances. The black is still on hand, but in the possession of buyers rather than producers. Another important market factor is that exports are constantly declining. This tends to leave larger quantities of carbon black available to American users, and with the output of tires for pleasure cars dropping, domestic consumption is probably already at a much lower level than for last year. Supplies of carbon black for ink use would seem to be ample as far forward into the future as we can see at the present time. The only difficulty which can at present be foreseen might develop from a transportation shortage, interfering with the shipment of black from the Texas producing area to the important markets.

Turning from pigments to the ink makers' other principal raw material ingredient,—drying oils, we find a somewhat similar mixed situation. Domestic production of the most important ink drying oil—linseed—is at an all-time peak, and there are ample additional stocks in the Argentine, but some of the new varnishes based on synthetic resins may be almost impossible to manufacture for the duration of the war due to defense demands for resins. The alkyd resins which have been widely used in ink formulation in recent years are now practically unobtainable due to defense demands for phthalic anhydride. The ureas, too, present just as acute a supply situation. Phenol-formaldehyde resins are also nearly unobtainable, with both important constituents on the Priorities Critical List. Ink makers have secured a B rating on these important ink resins, but it is very questionable how much, if any, supplies will be available for non-defense needs.

Domestic production of flaxseed, from which linseed oil is produced, was over thirty million bushels last year and will approximate the same figure this season. This compares with average production of only about twelve million bushels for the period 1930 to 1940. In addition there is an estimated exportable surplus of forty-five million bushels in the Argentine which can be tapped as long as shipping facilities are available. There will quite evidently be no shortage of the ink maker's most important drying oil.

The supply situation on some of the specialty drying oils such as tung and perilla, however, is quite different. Domestic production is inconsequential, and shipping shortages in the Pacific have seriously interfered with receipt of our normal supplies. As noted above, there is already a considerable problem in the production of the quick drying, high gloss, and non-scratch inks which have been developed over the past ten years paralleling the increased use of synthetic resins in the ink field. Ink users may for a time have to give up some of these newer type inks that they have learned to depend on, as their ink suppliers are forced to turn back to older types of varnish formulations making greater use of domestically produced linseed oil.

Waxes, such as carnuba and beeswax, important constituents of some lithographic inks, have become harder and harder to obtain. And prices have advanced as supplies became more scarce. Ink driers show the same trend toward higher prices and shorter supplies. The situation seems to be most serious on cobalt driers. In all these situations the ink industry is doing whatever possible to try to assure future supplies, and where ink buyers are working on government contracts this important information should be passed along to the ink maker to assist him in his efforts to obtain priority approval for additional raw materials.

The container problem is another dark spot in the ink picture. With the important defense status of tin as a strategic material, it seems to be only a question of time before sub-

(*Turn to page 50*)

IN AND ABOUT THE TRADE

W. A. Kruger Appoints Zale

W. A. Kruger Co., Milwaukee litho concern, has announced the appointment of Thad Zale as manager of its Chicago office to succeed S. Edwin Earle. Mr. Zale is known in the graphic arts field for a quick, short-cut method of estimating paper requirements on lithographic work.

•

Otto F. Kirsch Dies

Otto F. Kirsch, 68, plant superintendent for Rode & Brand, New York lithographers, died last month. Mr. Kirsch had been with the company for thirty years.

•

Named New Eastern Secretary

The Eastern Lithographers Association, an organization of employing lithographers with members in New York, New Jersey, Connecticut and Massachusetts, has announced the appointment of Walter E. Soderstrom as executive secretary. D. R. Morean, of American Colortype Co. and president of the Eastern Lithographers, made the announcement following a board meeting earlier this month. Mr. Soderstrom will succeed Robert P. Inglis. The new post will in nowise affect Mr. Soderstrom's duties as executive secretary of the National Association of Photo-Lithographers, it is announced.

Walter Soderstrom has been prominently identified with the lithographic industry for many years. He received his early training in the letterpress industry, and during the N. R. A. code days helped found the National Association of Photo-Lithographers. In conjunction with his job as secretary of the N. A. P. L., Mr. Soderstrom published *The Photo-Lithographer*, originally intended as an association house organ. *The Photo-Lithographer* grew beyond expectations and in 1938, having become an established trade paper for the industry, it was sold to the present publishers who renamed it MODERN LITHOGRAPHY.

At a meeting of the Eastern Lithographers Association held the middle of this month, D. R. Morean, American Colortype Co. was re-elected president; George Kindred, Kindred MacLean & Co., vice-president; and J. L. Murphy, Consolidated Lithographing Co., treasurer. The association will hold a meeting the latter part of the month to discuss priorities in the defense emergency, and their effect on the lithographing industry. Equipment and supply manufacturers will be among the speakers at the meeting.

WALTER E. SODERSTROM
. . . new secretary of the Eastern Lithographers Association.

•

Completes Expansion Program

James Mulligan Printing & Publishing Co., St. Louis, has just completed a ten-year expansion program which began with the installation of offset equipment in 1931. F. J. Mulligan, president, took over the management of the company after the death of his father, just at the beginning of the depression. Faced with an era of hard times, close profit and governmental control, he decided to supplement his letterpress equipment with offset facilities as a solution to severe competitive problems. The lithographic department installed in 1931 has been improved and added to until today the Mulligan shop is one of the most complete in the mid-west.

Poster Firm Returns to Chicago

Triangle Poster Printing Co. of Pittsburgh has again located its headquarters in Chicago, after a six-year absence. Incorporated as an Illinois concern in 1930, the company's main plant was transferred to Pittsburgh in 1935. Under the new set-up the latter plant will be continued and a third plant located at Atlanta, Ga., will be added. Equipment in the new Chicago plant at 512 Sherman St., includes two offset presses and complete facilities for handling large size outdoor advertising material. The company specializes in lithographed posters for theatrical, circus, carnival, fair and other amusement enterprises.

•

Max Palm Returns to Cincinnati

Max J. Palm, Jr., president of Palm Brothers Decalcomania Co., Cincinnati, Ohio, has returned to that city after residing in New York for the past two years. He will retain supervision of the New York office, however, assisted by Murray Booth, former manager of the company's Philadelphia branch.

•

Duenewald Elects McKenna

Duenewald Printing Corp., New York litho and printing concern, has announced the election of John F. McKenna as vice-president. Mr. McKenna had been sales manager of the General Lithographic Corp. for the past four years and prior to that was associated with the DeVinne-Brown Corp.

•

E. L. Hicks Retires

E. L. Hicks resigned his position as superintendent of Uniform Printing and Supply Co., Chicago, last month and will retire from business activities. Mr. Hicks had been superintendent of the Uniform Company's plant for seventeen years and before that was associated with other Chicago lithographing and printing firms. He was also active in affairs of the Chicago Craftsmen's Club.

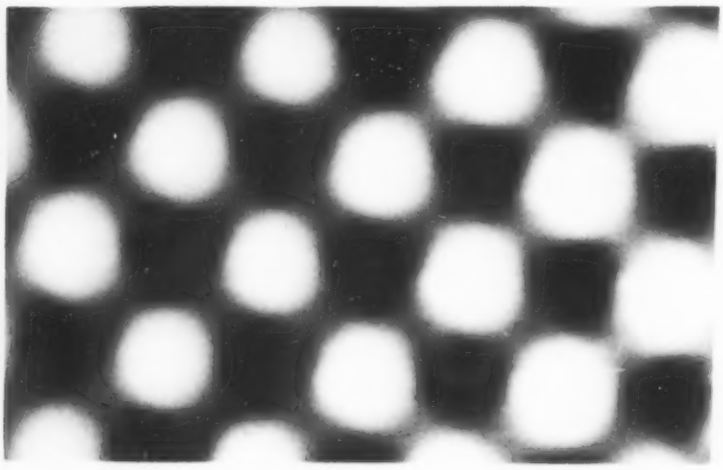
Kodak Research makes another major contribution with the KODAGRAPH CONTACT SCREEN PROCESS

HALFTONE reproduction takes a long step forward with the coming of the Kodagraph Contact Screen Process—one of the greatest advances in photomechanical reproduction since the cross-line screen was first introduced.

Briefly, the new method, perfected after years of experimentation in the Kodak Research Laboratories, involves the use of a special continuous-tone negative printed *in contact* with the Kodagraph Contact Screen to obtain a screen positive. The negative image and the screen pattern are composed of dyes which, in conjunction with the use of filters before the printing light, provide the closest control of contrast in the screen positive without affecting dot formation.

Where the photomechanical process requires the use of a halftone negative, it can be printed by contact, or the halftone positive may be reversed to a negative in processing.

• Magnified section of a Kodagraph Contact Screen, showing the pattern of evenly vignetted dots. This varying density and the orange-tinted dye, of which the pattern is composed, have much to do with the improved "photographic quality" of the halftone reproduction.



IMPORTANT ADVANTAGES

1. Improved sharpness of detail in the reproduction.

2. Improved tone reproduction, especially in the shadow areas, is obtained automatically.

3. Dot formation is independent of negative contrast. Contrast of the screen positive may be altered without affecting dot structure.

4. Much less camera time is required for each piece of copy.

5. "Highlighted" screen positives are easily made.

6. Many variables eliminated, such as the screen distance—screen size ratio.

SUMMARY OF THE PROCESS

1. A continuous-tone negative on Kodagraph Commercial Screen Film is made in the camera in reproduction size, and developed in a special magenta developer. For color work, Kodagraph Commercial Panchromatic Screen Plate is recommended for the continuous-tone separation negative.

2. The negative is printed in contact with the Kodagraph Contact Screen and the screen-positive material in a standard vacuum printing frame.

3. By using the Kodagraph Contact Screen Printing Lamp and its two filters, full advantage is taken of the optically clear magenta negative and orange screen to control contrast effectively in the screen positive.

4. This control of contrast without affecting dot formation is of great assistance in producing balanced screen positives from color-separation negatives.

• New equipment and technique provide improved sharpness of detail, more faithful tone reproduction, and close control of contrast, in full-color work as well as in black-and-white.

5. Furthermore, the correct screen angle for each color has been built into each of a set of four Kodagraph Contact Screens, eliminating a variable that oftentimes proves troublesome when the process plates are made with a conventional cross-line screen.

MATERIALS FOR THE PROCESS

Kodagraph Contact Screens

Evenly vignetted dot pattern on orange-tinted safety film base.

For black-and-white work

Four sizes: 11 x 14, 14 x 17, 16 x 20, 23 x 24
Three screen sizes: 120-, 133-, and 150-line

For color work

A set of four screens, 16 x 16 inches, 133 screen, with the four screen angles built in.

Screen dimensions are exclusive of ½-inch margins on all edges. The screens are kept free from dust, scratches, and finger marks in a heavy folder which slips into a black wooden container.

For the Continuous-tone Negatives

Black-and-white: Kodagraph Commercial Screen Film A. H.

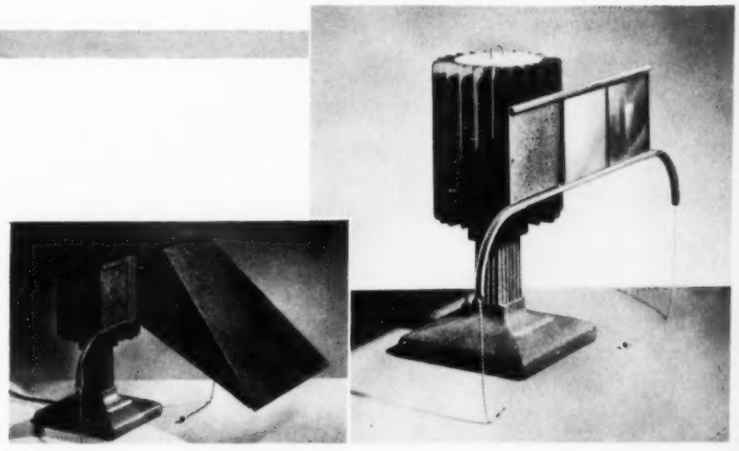
Color: Kodagraph Commercial Panchromatic Screen Plate A. H.

Kodagraph Contact Screen Process Magenta Developer

Package sufficient to make five quarts of solution.

Kodagraph Contact Screen Printing Lamp

Equipped with special filters for controlling contrast in printing. Includes T-20 projection-type lamp and hooded mirror.



• The Kodagraph Contact Screen Printing Lamp is equipped with a filter holder and two 4 x 4-inch filters, magenta and yellow, for use in controlling contrast in the screen positive. The radial fins on the lamphouse dissipate the heat generated by the 500-watt T-20 projection-type lamp.

A special hooded mirror directs the light downward when the vacuum printing frame is used in a horizontal position.

• • •

Screen Positives

Black-and-white: On Kodalith Orthochromatic Film, Kodalith Thin Base Film, Kodalith Transparent Stripping Film, or Kodalith Orthochromatic Plates.

Color: Kodalith Orthochromatic Plates.

The Kodagraph Contact Screen Process requires only a small investment in new equipment, which pays a rich return in improved quality.

For further information, see your Graphic Arts dealer.

Graphic Arts Sales Division

EASTMAN KODAK COMPANY, Rochester, N. Y.

Ink Makers Re-elect Math

Anthony J. Math, vice-president and treasurer of Sinclair & Valentine Co., was re-elected president of the National Association of Printing Ink Makers at the annual convention held last month at White Sulphur Springs, W. Va. Other officers who were re-elected are R. M. Hillas, Frederick H. Levey Co., vice-president; A. Wallace Chauncey, International Printing Ink Corp., treasurer; and David H. Sloane, secretary. John Ellison, Lewis Roberts, Inc., was the only new member elected to the board of directors.

•

N. Y. Lithos Hear Maxwell

The Litho Club of New York resumed its regular monthly dinner meetings on September 24th at the club headquarters, 2 Park Avenue, New York. The featured speaker was W. Floyd Maxwell, secretary of the Lithographers National Association, who in an off-the-record talk spoke on "The Defense Program and its Serious Effects on the Lithographic Industry." Mr. Maxwell discussed priorities affecting lithographic materials and supplies, and called attention to those points in the future program of O.P.M. and the O.P.A. C.S. which in his opinion would have serious consequences for the industry.

•

Jack Roser Joins Milprint

J. L. Roser, former plant superintendent for Reserve Lithographing & Printing Co., Cleveland, recently joined Milprint, Inc., Milwaukee, as manager of its lithographing department. He has been succeeded at Reserve by Robert Calvert.

•

Use of Offset Cuts City Costs

A new planographed, pocket-size edition of the revised Chicago Municipal Building Code is scheduled to make its appearance this month. The fact that the Code is planographed is the result of a survey launched in June to find a means of reducing the city government's annual printing bill. The contract for the job was awarded to the Chicago Planograph Corp. after it had been determined that by using the planographing process, composition for the 400-page volume would be eliminated and production expenses reduced. Use of the camera to reproduce the typewritten manuscript copy also made possible reduction of page dimensions to the pocket-size format.

Architects, contractors, building inspectors and others who use the book are commending city authorities for providing a convenient and compact book. Heretofore the Code had been available only in a 1000-page volume. Further use of planographing in order to reduce Chicago's printing bill is forecast in the first progress report on the survey which was sent to the Mayor's office last month. In addition to the new Building Code, several other opportunities have been discovered where lithography can be used advantageously and with considerable economy.

•

Gamse Adds New Equipment

Gamse Lithographing Co., Baltimore, label lithographer, recently added a new Harris LSJ, Rotary Feeder Offset Press, size 42 x 58. The company has also recently installed a Rutherford photo-composing machine, type RMT, for plates up to 48 x 59, including all modern equipment such as negative holders, etc. At the present time, a new Zenith graining machine, size 65 x 100, is also being added.

•

To Hold Annual Printing Exhibit

The New York Employing Printers Association has announced its seventh annual Exhibition of Printing to be held at the Hotel Commodore, New York, October 27, 28 and 29. All types of printed material will be shown and awards given for outstanding pieces. George Welp, Interchemical Corp., heads the board of judges which includes Roy Dickinson, Printers' Ink Publishing Co.; O. Alfred Dickman, *New York Herald Tribune;* A. E. Giegengack, Public Printer of the United States; and Douglas C. McMurtrie, chairman of the Educational Commission, International Association of Printing House Craftsmen. The exhibition will also be shown in the New York Advertising Club for two weeks following its showing at the Commodore.

Offset Featured at Symposium

C. T. Fairbanks, president of Edwards & Deutsch Lithographing Co., Chicago, was among the speakers at a symposium on point-of-purchase advertising held in connection with the convention of the National Food Distributors Association in Chicago recently. Other speakers included Edward T. Sajous, executive secretary, Lincoln Jones, director of research of the Point-of-Purchase Advertising Institute. Porter F. Leach, New York merchandising and advertising consultant, was chairman of the meeting.

Stecher-Traung Lithographing Corp. was represented with a booth at the trade exposition staged for the convention. Harold Johnson, sales manager of the company's Rochester, N. Y., plant was in charge, assisted by Gilbert Brooks of the Chicago district office. On display were samples of recipe folders and cards, menu tip-ons, point-of-sale literature and other lithographed products of interest to food distributors. A booklet on "How To Step Up Your Advertising Material and Save Money," which was distributed to visitors, explained Stecher-Traung's use of gang runs to provide four-color lithographed material at low cost. Milprint, Inc., Milwaukee, Wis., lithographing and printing concern, was another exhibitor. Its display featured cellophane and glassine wrapping materials, food cartons and labels.

•

Goes Widow Dies

Mrs. Josephine Goes, 79, mother of Arthur Goes, Sr., president, and Charles Goes, vice-president, Goes Lithographing Co., Chicago, died last month. Mrs. Goes was the widow of Charles B. Goes, who founded the company in 1879.

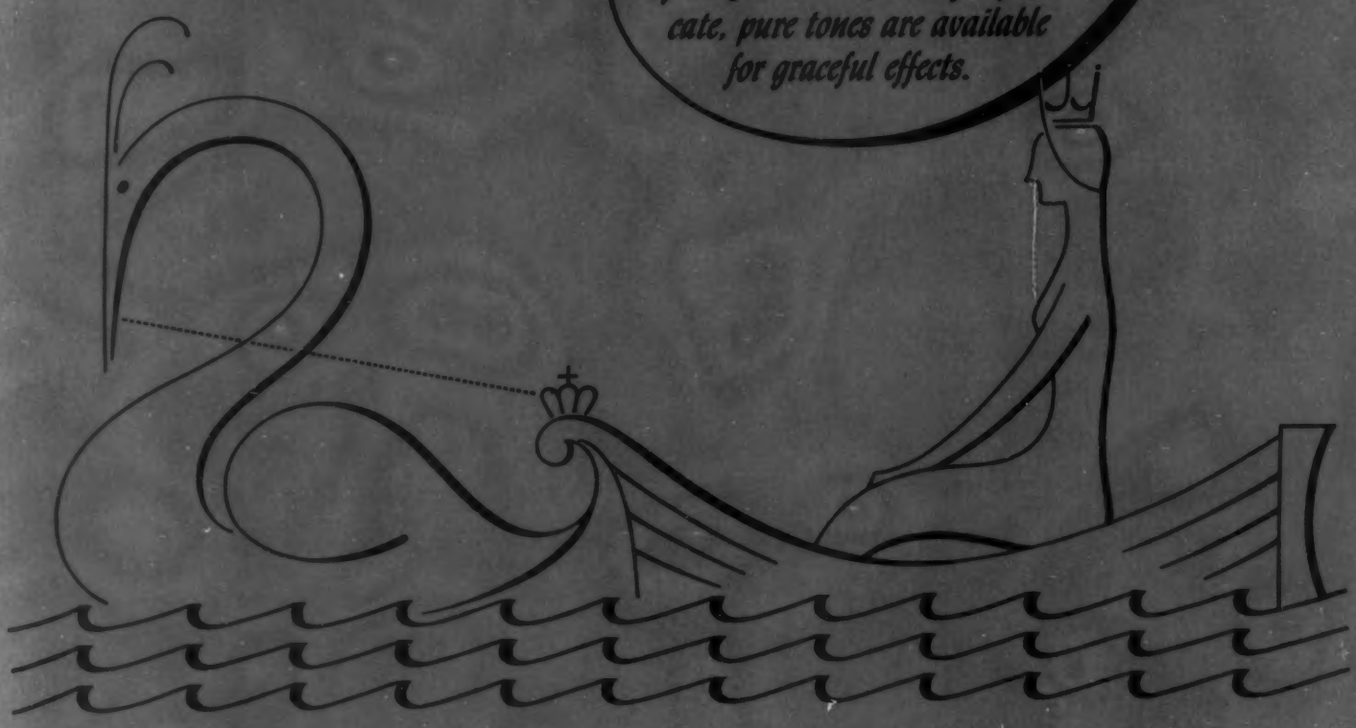
•

New Lanston Installations

Fleming-Potter Co., Peoria, Ill., installed an M-H 3 photocomposing machine last month, and at Denver, Colo., the A. B. Hirschfeld Co. added another 24″ M-H overhead precision motor-focusing camera. Both sales were made through Lanston Monotype Machine Co.'s Chicago office.

Delicacy

Fastidious lithographers depend on the clean-cut reproductive qualities of F & L inks. A range of delicate, pure tones are available for graceful effects.



F&L

THE FUCHS & LANG MFG. COMPANY

DIVISION · GENERAL PRINTING INK CORPORATION

Crown No. 37415

100 SIXTH AVENUE · NEW YORK

Crown No. 37416

BOSTON · CHICAGO · CINCINNATI · CLEVELAND · PHILADELPHIA · ST. LOUIS · SAN FRANCISCO
FORT WORTH · LOS ANGELES · TORONTO, CANADA

Minding Your Business

We mind our own business by minding your business. By watching carefully the developments in the lithographic field and adapting our products to your requirements we are doing our job to make your business more efficient—more capable—more profitable. In many ways during the existing emergency Fuchs & Lang is helping to protect the interests of lithographers through ceaseless research for new and improved products—by installation of modern machinery—by continuing to train its personnel for better service to you. All the way down the line you'll find that F. & L. should be an integral part of your business.

F&L FUCHS & LANG MFG. CO.

(ESTABLISHED 1870)

DIVISION · GENERAL PRINTING INK CORPORATION

100 SIXTH AVENUE · NEW YORK, N. Y.

BOSTON CHICAGO CLEVELAND CINCINNATI PHILADELPHIA ST. LOUIS
SAN FRANCISCO FORT WORTH LOS ANGELES TORONTO, CANADA

Fatally Injured in Auto Accident

Charles B. Little, representative for the Howard Flint Ink Co., Detroit, and his wife were fatally injured in an automobile accident near Akron, Ohio, last month and died shortly afterwards. Mr. Little had been connected with the *Akron Times* until 1938 when he joined the Flint Company and was well-known in graphic arts circles.

•

Murphy Employees Hold Outing

Daniel Murphy & Co., New York platemakers, held an outing for their employees last month at Franklin Square, L. I. Activities of the day included a dinner and supper, a soft ball game and bowling matches. This was the first outing held by the company and was so well received that similar events are being planned for the future.

•

Madden Leaves American Writing

Russell S. Madden, director and vice-president in charge of sales and advertising for American Writing Paper Corp., Holyoke, Mass., resigned last month. Thomas H. Blodgett, chairman of the board, will take over Mr. Madden's executive duties and W. J. Norton, treasurer, has been appointed advertising and sales promotion manager.

•

Expand Gaetjens Chicago Branch

Gaetjens, Berger & Wirth, Brooklyn, N. Y., manufacturers of printing and litho inks, have recently expanded the operations of their Chicago plant. New milling and mixing equipment has been added and necessary space taken to house the increased facilities. The Chicago branch is now equipped for direct manufacturing in addition to acting as a service station for base inks furnished by the main plant in Brooklyn.

•

Revise Wage-Hour Record Rules

Revisions of the regulations for keeping wage and hour records under the Fair Labor Standards Act became effective last month. Among the new requirements are that each employer must preserve for at least two years from the last date of entry the original copy of all customer orders or invoices received, incoming or outgoing shipping or delivery records, as well as all bills of lading and all billings to customers which the employer retains or makes in the course of his business operations. Employers paying on a semi-monthly basis now may record daily instead of total weekly straight-time earnings. Daily and total weekly recording is still required for hours. Daily hours may be recorded by entering starting and stopping time. An explanatory bulletin issued with the new record-keeping regulations states that compliance with these regulations does not relieve the employer from the record-keeping requirements of other federal or state agencies. The bulletin also points out that no specified forms are required for keeping the records.

•

NYEPA Courses Begin Oct. 20th

The New York Employing Printers Association will begin its twenty-fifth season of educational courses in printing and related subjects on October 20th. Courses offered this year include advertising layout and typographic design, advertising typography, cost accounting and financial management for printers, elements of offset lithography, elements of printing and printing processes, estimating for printers, production management, proofreading, public speaking and development of personality, and selling printing. Each course consists of twenty lessons spread over twenty weeks. A booklet giving further information is available on request.

•

Outdoor Art Exhibit

The 12th Annual Exhibition of Outdoor Advertising Art will be held November 13 to 22 at the Exhibition Galleries of Marshall Field & Co., Chicago. Awards are to be announced November 13.

•

Introduce Miniature Posters

As a means of conserving paper, the National Outdoor Advertising Co. recently introduced miniature four-sheet posters which are half the size of a regular twenty-four sheet. The new posters are being used in Atlanta, Ga., by the Economy Auto Stores and Stoddard's Laundry.

Seek Printing Specialists

The United States Civil Service Commission, Washington, D. C., has announced that it will continue to accept indefinitely applications for the Industrial Specialist positions opened on July 7th. Experienced men are needed for the National Defense Program in many fields of industrial activity including paper, printing and publishing. Salaries range from $2,600 to $5,600 in the various grades. Application forms may be obtained from any first or second class post office or at a Civil Service District Office.

•

Reduces Aluminum Prices

The Aluminum Co. of America, Pittsburgh, announced a price reduction of from 17 cents to 15 cents per pound for ingot aluminum, effective September 30th. Reductions in the price for fabricated aluminum will also be made to conform with the ingot prices, it was announced. This is the fourth reduction in eighteen months, prior to which the price of aluminum was 20 cents per pound. The company has also announced plans for the construction and operation of an aluminum plant in Arkansas with an annual capacity of 400,000,000 pounds, and for the construction of three aluminum smelting plants, one at Massena, N. Y., another in the Portland, Oregon district, and a third in Arkansas. A contract for the construction of these new plants has been made with the Defense Plant Corp., acting for the United States Government.

•

Ask 27% for Zinc Pool

The director of priorities has recently announced that producers of metallic zinc will be required to set aside an amount equal to 27 per cent of August production for the October emergency zinc pool. This will amount to approximately 20,440 short tons. In September zinc producers were requested to set aside 27 per cent of July's production, as well as 10 per cent of July's production of zinc oxide. No provision was made for October that either zinc oxide or zinc dust must be laid aside in a pool.

HAVE YOU HAD YOUR **DAMPENING PROBLEMS** ON THE CARPET LATELY?

PERHAPS it is high time you did. For only when you have brought your dampening problems under control will it be possible to produce lithography you can be proud of. **AQUATEX**, a seamless cover for lithographic and offset dampening rollers, and **DAMPABASE**, a seamless cover with semi-absorbent qualities recommended for use under **AQUATEX** or any other outside dampening device, have been manufactured especially to help the lithographer achieve positive dampening control.

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ALGRAPHY, LTD., London, England
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THE CALIFORNIA INK CO., INC., San Francisco, Calif., and all branches
CANADIAN FINE COLOR CO., LTD., Toronto, Canada
THE FUCHS & LANG MFG. CO., DIV., Chicago, Ill., New York City and all branches
A. GILBY & SONS, LTD., London, England
INTERNATIONAL PTG. INK DIV. OF INTERCHEMICAL CORPORATION, New York City, Chicago, Ill., and all branches
McKINLEY LITHO SUPPLY CO., INC., Cincinnati, Ohio
GUSTAVO E. MUSTELIER, Havana, Cuba, Puerto Rico
NATIONAL PAPER & TYPE CO., Branches in South America
PRINTING PRESS PARTS & SUPPLIES, INC., Boston, Mass.
ROBERTS & PORTER, INC., New York City and Chicago, Ill.
J. H. & G. B. SIEBOLD, INC., New York City
SINCLAIR & VALENTINE CO., New York City and all branches

GODFREY ROLLERS

GODFREY ROLLER COMPANY

WILLIAM P. SQUIBB, President

211-17 N. CAMAC STREET, PHILADELPHIA

To Our Lithographer Friends

Material shortages and delays arising from the National Defense Program and the war abroad are affecting every one of us.

Mallinckrodt is making every effort to keep supplies moving promptly to the trade but it becomes increasingly evident that all of us must proceed, for a while at least, with reduced supplies of certain materials.

It is important under such circumstances to avoid waste in any form. To help you, Mallinckrodt offers its experience of nearly 75 years in the lithographic industry in supplying information on proper handling and storage conditions for chemicals to avoid breakage, spoilage and contamination.

This information is available to any user of any item in our complete line of lithographic chemicals which includes the Acids, Iodides, ALBUSOL*, PICTOL*, Ammonium Bichromate, Hydroquinone, and many others.

*Trade Mark Reg. U. S. Pat. Off.

FINE CHEMICALS Mallinckrodt SINCE 1867

WRITE CHEMICAL STORAGE DEPARTMENT, SECOND & MALLINCKRODT ST., ST. LOUIS, MO.

Mallinckrodt Chemical Works

MALLINCKRODT ST., ST. LOUIS, MO. 74 GOLD ST., NEW YORK, N. Y.

CHICAGO • PHILADELPHIA • TORONTO • MONTREAL

Lithographers Prefer to Select Their Own Paper, Survey Reveals

LITHOGRAPHERS actually choose the brand of paper for 90 per cent of the jobs done in their plants and almost unanimously prefer to do the selecting, according to a recent survey conducted by MODERN LITHOGRAPHY to determine the paper buying habits in the lithographic industry. In answer to a questionnaire sent to 500 lithographers—a representative cross section of the industry—67 per cent of the 110 replies received said that the lithographer selects the paper, while 23 per cent said the customers select paper from samples submitted by the lithographer. Only in 10 per cent of the cases did the customer specify the type and brand of paper without any help from the lithographer.

Among the questions asked was, "Is it advantageous to the lithographer to select the paper?" To this, 101 replied "yes," only 3 said "no" and 6 left the question unanswered. It was indicated that lithographers usually select the paper for the general run of lithographic work such as direct mail, catalogs, booklets, displays, labels, books, posters, etc., while the material for which the customer specifies the brand of paper is usually letterheads and stationery, special office forms, and greeting cards. Advertising agencies and large advertisers generally do their own paper selecting, according to the answers received.

Asked to give reasons why it was of greater advantage to the lithographer to do the paper selecting, most of the lithographers said that inasmuch as they were more familiar with the working qualities of offset paper and its adaptability to their particular equipment, they would be better qualified to select the proper paper for the job at hand. Many of them pointed out that most buyers of lithography did not keep posted on new developments in paper making and, therefore, were not in a position to recognize the desired opacity, finish, bulk, strength, folding qualities, etc. which would give the best results. Another of the major advantages given was that the lithographer can buy large quantities of one standard paper for each class of work and thereby effect a saving in paper costs. Furthermore, by standardizing on as few papers as possible, inventories can be kept at a minimum. Many of the answers also agreed that greater production efficiency was possible if the pressman had a standard material of known operating characteristics to work with rather than various types of unfamiliar stock, since papers of the same class from different mills perform differently in production to a sufficient degree to require a modification in handling. The lithographers also stated that they could provide more reliable deliveries to the customer if they were permitted to select standard papers which they would always have on hand rather than depend on mill conditions for individual paper orders.

General conclusions which may be drawn from the results of the survey are that in the majority of cases the lithographer, and not the customer, actually selects the brand of paper for the lithographic job and nearly all lithographers would prefer to do this since they are responsible for the finished job and have the necessary experience to select the paper which will produce the best results.

•

The Outdoor Advertising Association of America is sponsoring a permanent foundation at the College of Commerce of the University of Notre Dame, Notre Dame, Ind., to provide for instruction in the theory and practice of outdoor advertising, according to an announcement just issued by Father Hugh O'Donnell, president of the University. The aim of the foundation is to train qualified students for expert work in the field of outdoor advertising. The new foundation will provide in addition to regular courses of instruction an extensive library collection of books on the subject, periodicals and various other materials, and a series of lectures each semester by leaders in the outdoor advertising field.

•

Further reduction of the use of chlorine in the manufacture of pulp and paper has been ordered in a directive issued by the materials branch, Office of Production Management.

The directive orders pulp and paper manufacturers to limit consumption of chlorine in bleaching rag stock to 80 per cent of the amount used in the first half of 1941 and to 70 per cent in the manufacture of semi-bleached grades. The directive does not apply to certain types of pulps in which chlorine is a processing rather than a bleaching agent.

The annual production of chlorine is estimated at over 700,000 tons. Of this amount between 30 and 50 per cent is going into defense work at the present time. About 25 per cent of the total supply is normally used for bleaching paper.

•

Maurice L. Brown, of Hook Signs, Calgary, Alberta, Canada, was recently elected president of the Poster Advertising Association of Canada to succeed Harold V. Gould. Other new officers are Frank I. Ritchie, first vice-president; J. R. Robertson, second vice-president and O. J. Callary, honorary secretary-treasurer. J. M. Leckie was re-elected secretary.

•

J. H. Doesburg, legal counsel of R. R. Donnelley & Sons Co., Chicago, addressed the Chicago Club of Printing House Craftsmen at the first meeting of the fall season, held September 16. "Taxation and Legislation Affecting the Graphic Arts" was the subject of his talk.

Let **ADENA** *Offset*

BRING PROSPERITY HOME TO YOU!

Adena is a "selling" sheet, a paper of action. Promote it for those direct mail jobs on which RESULTS are demanded by customer.

Tub-sized . . lies flat . . does not curl.

Adena is ready to run; can be placed on press direct from case or skid.

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Embossed and Decorative

Save Money by Shipping via Miami Valley Shippers' Association.

Makers of Quality Offset, Lithograph and Book Papers

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CHEMICALS

Manufactured by The Coleman & Bell Company according to the formulas of the Lithographic Technical Foundation.

•

DEEP-ETCH CHEMICAL
STABILIZED ALBUMIN SOLUTION
LITHOTINE
LITHOTINE CONCENTRATE
LITHO-KLEEN CONCENTRATE
PLATE ETCHES
FOUNTAIN ETCHES

•

Heretofore many lithographers have prepared these or similar materials for their own use. In response to an increasing demand, however, they are now available in packaged form, ready-to-use, through the following distributors. Demonstrations will be arranged in the principal lithographic centers.

Distributed by

The California Ink Company, Inc.

The Fuchs & Lang Mfg. Co.
(Division of General Printing Ink Corp.)

International Printing Ink
(Division of Interchemical Corp.)

Sinclair & Valentine Company

Sinclair & Valentine Company of Canada

NEW EQUIPMENT AND BULLETINS

Champion Issues Annual Report

Another example of the growing effort on the part of management to express its point of view and to share its problems with labor is the "Annual Report to Champions 1941," third annual report to employees just issued by the Champion Paper & Fibre Co., Hamilton, Ohio. Under three major headings—Sound Products, Sound Men and Women, and Sound Finances—the story of the company is attractively presented with the aid of photographs and numerous pictorial statistics. Financial information, formerly sent only to stockholders, has been included in the employees' report for the first time. This is presented in simple form and shows the employee's share in the company's finances. The "Report to Champions" is issued in three editions, one for each of the company's three production units. Each report is prefaced by a statement from one of the company's wage earners to whom it was submitted for criticism prior to publication.

•

Describes Synthetic Rubber

B. F. Goodrich Co., Akron, Ohio, has just issued an eight-page catalog section describing its Ameripol D synthetic rubber. Illustrated with photographs showing mechanical rubber products made with Ameripol D, the folder discusses in detail its properties, hardness, tensile strength, elongation, weight, color, odor and taste, etc., and resistance to flexing, oils, solvents and heat. Four tables are also included showing the comparative properties of Ameripol D, natural rubber and two other types of synthetic rubber.

•

Sorg Distributes Sun Dial

Sorg Paper Co., Middletown, Ohio, is distributing an interesting, lithographed, die-cut sun dial printed on its White Sorex paper, which may actually be used to tell time. The promotion piece is particularly appropriate since a sun dial with the slogan, "Since 1852—Tested by Time," is the company's trademark. Copies of the dial are available on request.

•

H-S-P Increased Profit in '40

Harris-Seybold-Potter Co., Cleveland, earned a net profit of $402,683 for the fiscal year ended June 30th, according to the annual report just issued. This represents $2.37 per share of common stock after deducting dividend requirements on outstanding preferred stock. For the previous year, the net profit was $250,535 or $1.17 per common share. The 1941 annual report was distributed to the company's employees and includes much interesting factual information on taxes, how the company functions, and data about its products, in addition to the formal financial statement. The report is a graphic demonstration of the versatility and color effects obtainable through the use of the offset process. It is suggested that since there are approximately 2,500 corporations publishing annual reports and upwards of 20,000,000 reports being printed annually, this type of printing alone should represent a fertile market for the lithographer.

•

New Strathmore Booklet

Strathmore Paper Co., West Springfield, Mass., has just issued an interesting booklet demonstrating how the miniature direct-mail pieces from its "New Business" promotional series may be adapted by the printer and lithographer to the individual needs of printing buyers. The miniature pieces are used to demonstrate the variations possible in service or merchandise promoted, layout and color scheme and type of paper.

•

Describe Scoring Methods

"How to Score, Die Cut and Emboss Bristols" is the title of a booklet

Strathmore miniature direct-mail pieces

For printed materials that really **"pack a punch"**, the critical user considers color, finish, opacity, bulk, strength and cost and specifies

EQUATOR OFFSET

because this pure-white, fuzz-free paper responds to every requirement of fine offset printing as smoothly and faithfully as a champion.

EQUATOR OFFSET • EQUATOR INDEX BRISTOL • CREAM SOREX • WHITE SOREX • VALLEY CREAM POSTCARD • MIDDLETOWN POSTCARD • BUCKHIDE TAG • No. 1 JUTE TAG

Above items carried in stock at mill, and a wide variety of special papers made to order.

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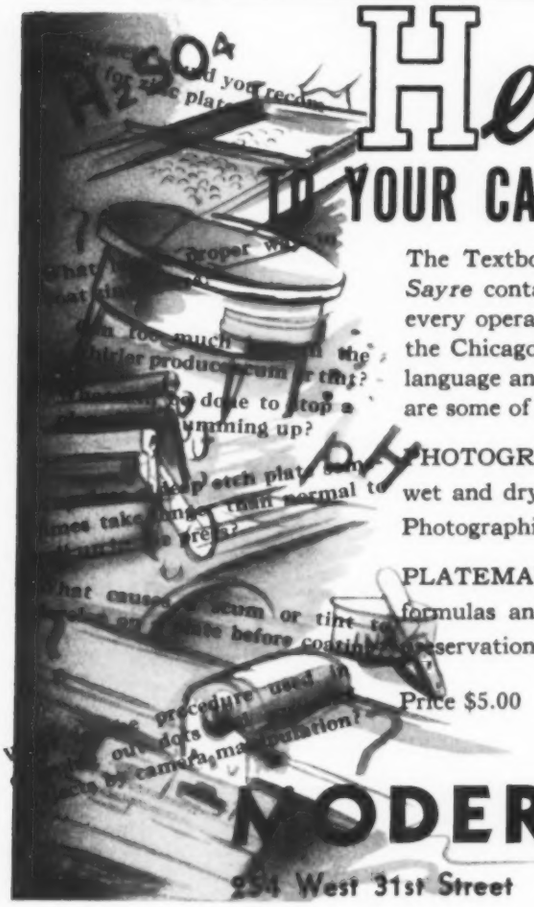
Chicago: Daily News Bldg. . . . **Boston:** C. H. Dodge, 10 High St. . . . **Los Angeles:** N. L. Brinker, 943 N. Main St. . . . **St. Louis:** H. E. Bouis, Ambassador Bldg.



Here's the answer..

TO YOUR CAMERA AND PLATEMAKING PROBLEMS

The Textbook of Photography and Platemaking for Photo-Lithography *by I. H. Sayre* contains 280 pages of up-to-date information on procedure and formulas for every operation from copy to the completed plate. Used as a standard textbook by the Chicago School of Printing and Lithography, it is written in easy-to-understand language and will give you the *right* answer to your basic every-day problems. Here are some of the subjects covered:

PHOTOGRAPHY—Chemistry of photography and formulas; Procedure for making wet and dry plate negatives; Filtering; Halftones; Screen separations; Drop-outs; Photographic equipment; Layout for a process darkroom; etc.

PLATEMAKING—Chemistry of lithographic printing; Albumin platemaking—formulas and procedure; Deep etched platemaking; Graining metal plates; Plate preservation; pH control; Blue prints and other direct printing processes; etc.

Price $5.00 — Send for your copy today!

Please send check with order

MODERN LITHOGRAPHY

254 West 31st Street — New York, N. Y.

just issued by Linton Brothers & Co., Fitchburg, Mass. The booklet was designed mainly to show how Bristols can be scored so as to eliminate cracking. Various methods of scoring on different weights of paper are described and actual samples given. Specimens of embossing and die cutting on the company's Bristol papers are also included in the booklet.

•

Bus Ass'n Installs Offset

The National Bus Traffic Association has completed organization of an offset print shop at its Chicago headquarters for the production of passenger bus time tables used by the Greyhound Lines, of which the Association is a subsidiary. New equipment includes a Webendorfer 17½ x 22½ offset press, camera and plate-making facilities, purchased through E. G. Ryan & Co., Chicago. Varityper machines are also used. Previously the company had been spending $80,000 a year to have the schedules printed for them but believe that with their new offset equipment this expense can be reduced.

•

U. T. A. Meets October 27-29

The United Typothetae of America will sponsor a Management Congress of the Printing Industry at its 55th annual convention to be held October 27 to 29 at the Palmer House, Chicago. Walter B. Reilly, president of the U. T. A., and vice-president of Courier-Citizen Co., Lowell, Mass., will open the meeting with a discussion of the economic and political forces influencing printing operations and printing profits. "Profit Horizons Under War Economy" will be the topic of the first day's sessions to be presided over by Lester E. Oswald, E. F. Schmidt Co., Milwaukee. Other speakers at this session include Thomas Butler, Herbick and Held Printing Co., Pittsburgh, who will discuss the profit future of the large general printer and Arthur A. Wetzel, Wetzel Brothers, Milwaukee, who will present the profit picture of the medium-small printer.

A feature of the second day's session will be the introduction of the new Management Control Procedures developed by the U. T. A. to replace the present Standard Cost Finding System. Operation of the new system will be explained in detail and its uses and benefits described. Speakers scheduled to address this session on management and labor problems include Peter Becker, Jr., Standard Press, Inc., Washington, D. C.; David S. Veitch, Security Printing Co., Kansas City; and John A. Bresnahan, legal counsel for the U. T. A. Group conferences will be held on the market outlook and operating problems of advertising printers, publication printers, bank and commercial stationers and general service printers.

"Supply, Priorities and Labor" will be the general topic of the final day's meeting, under the direction of Elmer G. Voigt, Western Printing and Lithographing Co., Racine, Wis. The featured speaker will be Norbert A. McKenna, Chief of the Pulp and Paper Commodity Section of the Office of Civilian Supply, whose subject will be "Paper for Defense and the Printing Industry," a factual analysis of the paper situation, the policies and objectives of OPM. Other important addresses to be heard include "Metals for the Printing Industry," a report of a special investigation by Thomas Roy Jones, American Type Founders Corp., Elizabeth, N. J., and "Ink and Chemicals," a discussion of the present supply situation with respect to these materials and what the future supply problem appears to be, by John B. Davis, Chief of the Protective Coating Section, OPM. A business luncheon honoring officers and directors of local graphic arts associations will feature an address by Hon. A. E. Giegengack, Public Printer of the United States.

Nelson Associates' booth at the NAPL Convention in Cincinnati last month marked the Detroit concern's initial effort in a campaign to make its Typewritten Composition Service available to the industry at large. Nelson Associates specialize in the production of typewritten repro proofs, ready for the camera, for any type of lithographed product, but particularly for price lists, parts lists, catalogs, manuals, and inter-organization material.

•

Distribute $60,000 Bonus

Gardner-Richardson Co., manufacturer of paper board and paper folding boxes, Middletown, Ohio, recently distributed a bonus of approximately $60,000 to 1,600 employees of its Lockland and Middletown plants. According to E. T. Gardner, president of the company, the bonus was given in appreciation of the efficiency of the employees.

Kodagraph Contact Screen

(*from page 35*)

oper will be supplied in packages to make up 5 quarts of solution.

3. Kodagraph Contact Screen Printing Lamp and Filters

A lamphouse carrying a 500-watt T-20 projection lamp, which has been specially designed to dissipate heat.

The contrast control filters are part of the Printing Lamp. They are yellow and rose in color, 4" square, and coated on glass.

4. Magenta Negative Materials

Kodagraph Commercial Screen Film AH (for black and white work).

Fig. 6

Kodak F-5 Acid Hardening Fixing Bath

	Avoirdupois	*Metric*
Kodak Sodium Thiosulfate (Hypo)	2½ pounds	1200.0 grams
Water	1 gallon	4.0 liters

When the hypo is dissolved completely, add 32 ounces (1 liter) of the following stock hardener solution:

Kodak F-5a Hardener

	Avoirdupois	*Metric*
Water, about 125° F. (50° C.)	80 ounces	2.5 liters
Kodak Sodium Sulfite, desiccated	10 ounces	300.0 grams
*Kodak Acetic Acid, 28% pure	30 fluid ozs.	950.0 cc.
**Kodak Boric Acid, crystals	5 ounces	150.0 grams
Kodak Potassium Alum	10 ounces	300.0 grams
Water to make	1 gallon	4.0 liters

*To make 28% acetic acid from glacial acetic acid, dilute 3 parts of glacial acetic acid with 8 parts of water.

**Use crystalline boric acid as specified. The powdered variety is difficult to dissolve and its use should be avoided.

Dissolve the chemicals in the order named. Cool the hardener and add it slowly to the cool hypo solution while stirring the latter rapidly.

Defense and Lithography

(*from page 38*)

stitutes for tin must come into common use. Experiments are already being conducted with baked-on organic linings to replace tin, and paper or fibre ink cans in the smaller sizes, with parchment or celluloid linings, are also being investigated. Since the consumption of metal in the smaller containers is out of all proportion to that necessary in larger ink shipments, ink makers may at any time be faced with the necessity of limiting the number of their container sizes, shipping one five pound container instead of five ones. Ink buyers willing to do their share to preserve and extend the existing metal stocks should wherever possible start at once to eliminate orders for inks in small containers.

When the press comes later, as it probably will eventually, and ink makers face the necessity of making formula changes forced by raw material shortages, the cooperation of the ink user will be even more essential. By making clear to the ink maker what characteristics of the ink must be preserved intact, and where some concession can best be made without affecting too much the quality of the finished reproduction, the problems which ink maker and user must face together can in all probability be worked out to the satisfaction of both.

While the foregoing remarks indicate that some difficulties are likely to be experienced in obtaining supplies of certain types of inks, there is no reason whatsoever to take a pessimistic view of the situation. Up to this point the attitude of the Government has been that ink making is an essential industry and there is every likelihood that sufficient raw materials will be allocated to ink makers to furnish inks reasonably close in quality to those supplied in the past.

Since there is every likelihood that most of the items will not be affected, it seems that the best buying policy to be followed in order to prevent shortages being created by advance buying is to purchase the normal requirements since the indications are that any difficulties encountered will not be particularly severe.

•

Sorg Buys Pulp Mill

The Sorg Paper Co., Middletown, Ohio, has recently purchased the Port Mellon pulp mill from the Vancouver Kraft Corp., according to an announcement by J. A. Aull, president. Extensive plans have been made for expansion and improvement of the mill in order to double its present capacity of 65 tons per day of unbleached sulphate pulp. The Sorg Co. also plans to produce bleached and unbleached sulphite and bleached sulphate in the newly acquired mill.

•

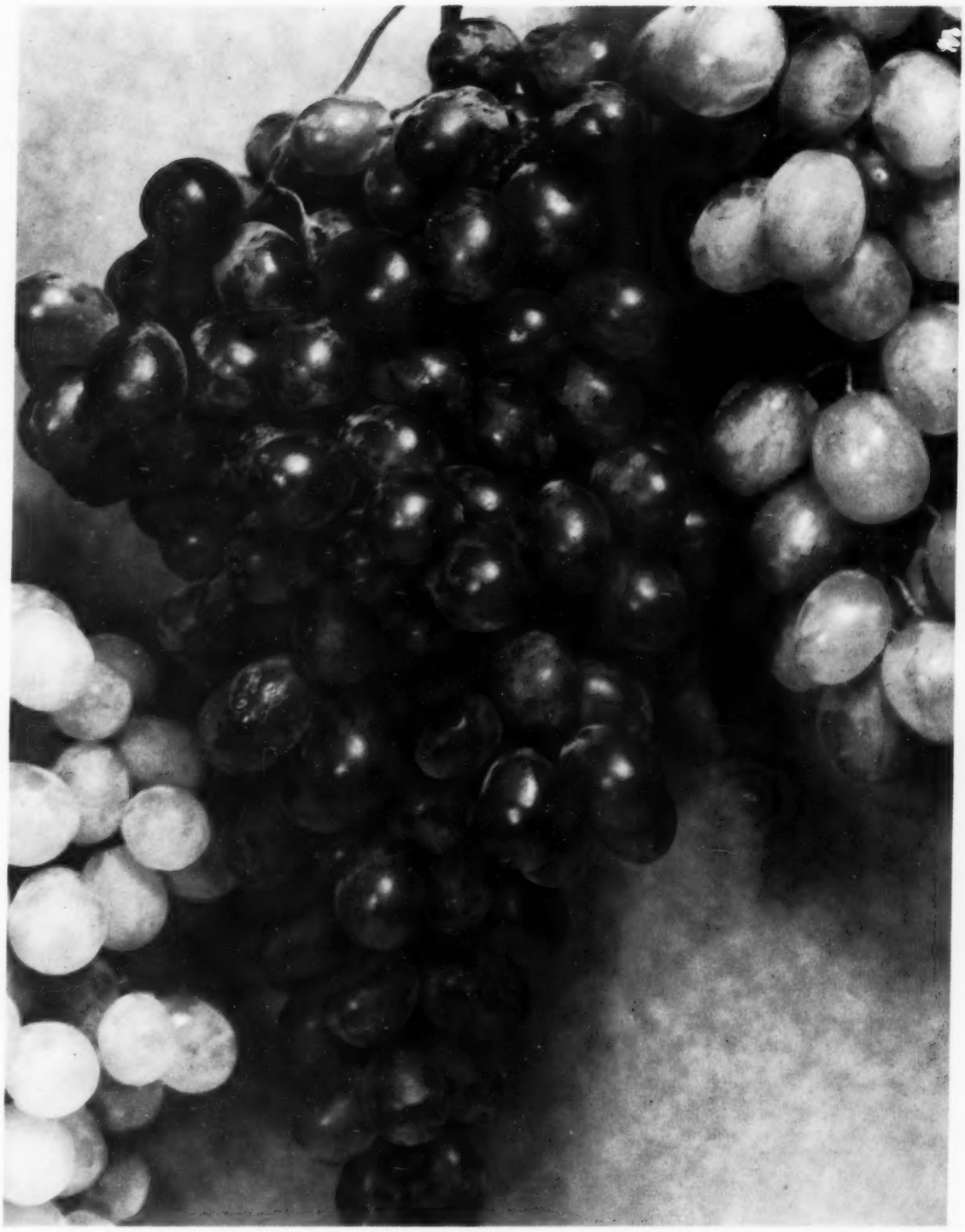
Cincy Craftsmen Hear Sooy

Walter Sooy, Gardner-Richardson Co., Middletown, Ohio, was the featured speaker at the September meeting of the Cincinnati Club of Printing House Craftsmen. He discussed the box board industry in the light of recent developments, giving an analysis of priorities rulings, substitutes and shortages caused by emergency conditions. Mr. Sooy returned recently from Washington where he participated in conferences regarding national defense activities affecting the paper industry.

Plans were also announced at the meeting for the dedication of the Teddy Dorle Field, which comprises the block immediately adjacent to the United States Printing & Lithograph Co. plant at Norwood, next month. The property was recently purchased and improved by the municipality in memory of the late Theodore Dorle, who was superintendent of the lithographing plant for many years and was known as "the man who kept the field open for Norwood's children."

•

B. G. Lithographic Co., Georgetown, British Guiana, recently lithographed in two colors an attractive series of stamps and 17" x 22" posters for the Red Cross Committee of Georgetown.



WARREN'S Cumberland Offset

PRE-CONDITIONED

WOVE & SPECIAL FINISHES

Postal regulations prohibit sampling of paper in this publication, therefore this insert is not printed on Cumberland Offset.
Sample Book of all finishes of Warren's Cumberland Offset may be secured from your Warren merchant.

Leading

PAPER MERCHANTS

who sell and endorse

Warren's Standard Printing Papers

Albany, N. Y.	Hudson Valley Paper Company
Atlanta, Ga.	Sloan Paper Company
Baltimore, Md.	The Barton, Duer & Koch Paper Co.
Baton Rouge, La.	Louisiana Paper Company, Ltd.
Birmingham, Ala.	Strickland Paper Company
Boise, Idaho	Zellerbach Paper Company
Boston, Mass.	Storrs & Bement Company
Buffalo, N. Y.	The Alling & Cory Company
Charlotte, N. C.	Caskie Paper Company, Inc.
Chicago, Ill.	Chicago Paper Company
Cincinnati, Ohio	The Diem & Wing Paper Company
Cleveland, Ohio	The Petrequin Paper Company The Alling & Cory Company
Columbus, Ohio	The Diem & Wing Paper Company
Dallas, Texas	Olmsted-Kirk Company
Denver, Colo.	Carter, Rice & Carpenter Paper Co.
Des Moines, Iowa	Western Newspaper Union
Detroit, Mich.	Seaman-Patrick Paper Company
Eugene, Ore.	Zellerbach Paper Company
Fort Worth, Texas	Olmsted-Kirk Company
Fresno, Cal.	Zellerbach Paper Company
Grand Rapids, Mich.	Quimby-Kain Paper Company
Great Falls, Mont.	The John Leslie Paper Company
Hartford, Conn.	Henry Lindenmeyr & Sons
Houston, Texas	L. S. Bosworth Company
Indianapolis, Ind.	Crescent Paper Company
Jacksonville, Fla.	Virginia Paper Company, Inc.
Kansas City, Mo.	Midwestern Paper Company
Lansing, Mich.	The Weissinger Paper Company
Little Rock, Ark.	Western Newspaper Union Arkansas Paper Company
Long Beach, Cal.	Zellerbach Paper Company
Los Angeles, Cal.	Zellerbach Paper Company
Louisville, Ky.	Miller Paper Company, Inc.
Lynchburg, Va.	Caskie Paper Company, Inc.
Milwaukee, Wis.	The W. F. Nackie Paper Company
Minneapolis, Minn.	The John Leslie Paper Company
Newark, N. J.	Henry Lindenmeyr & Sons Lathrop Paper Company, Inc.
New Haven, Conn.	Storrs & Bement Company
New York City	Henry Lindenmeyr & Sons Lathrop Paper Company, Inc. The Alling & Cory Company J. E. Linde Paper Company The Canfield Paper Company Marquardt & Company, Inc. Schlosser Paper Corporation
Oakland, Cal.	Zellerbach Paper Company
Oklahoma City, Okla.	Western Newspaper Union
Omaha, Neb.	Field-Hamilton-Smith Paper Company
Philadelphia, Pa.	D. L. Ward Company The J. L. N. Smythe Company Schuylkill Paper Company
Phoenix, Ariz.	Zellerbach Paper Company
Pittsburgh, Pa.	The Alling & Cory Company
Portland, Me.	C. M. Rice Paper Company
Portland, Ore.	Zellerbach Paper Company
Reno, Nev.	Zellerbach Paper Company
Richmond, Va.	B. W. Wilson Paper Company
Rochester, N. Y.	The Alling & Cory Company
Sacramento, Cal.	Zellerbach Paper Company
St. Louis, Mo.	Beacon Paper Company
St. Paul, Minn.	The John Leslie Paper Company
Salt Lake City, Utah	Zellerbach Paper Company
San Diego, Cal.	Zellerbach Paper Company
San Francisco, Cal.	Zellerbach Paper Company
San Jose, Cal.	Zellerbach Paper Company
Seattle, Wash.	Zellerbach Paper Company
Shreveport, La.	Louisiana Paper Company, Ltd.
Spokane, Wash.	Zellerbach Paper Company
Springfield, Mass.	The Paper House of New England
Stockton, Cal.	Zellerbach Paper Company
Topeka, Kan.	Midwestern Paper Company
Troy, N. Y.	Troy Paper Corporation
Tulsa, Okla.	Tulsa Paper Company
Waco, Texas	Olmsted-Kirk Company
Walla Walla, Wash.	Zellerbach Paper Company
Washington, D. C.	Stanford Paper Company
Yakima, Wash.	Zellerbach Paper Company

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New York City (Export) National Paper & Type Co.
Agencies or Branches in 40 cities in Latin America and West Indies.

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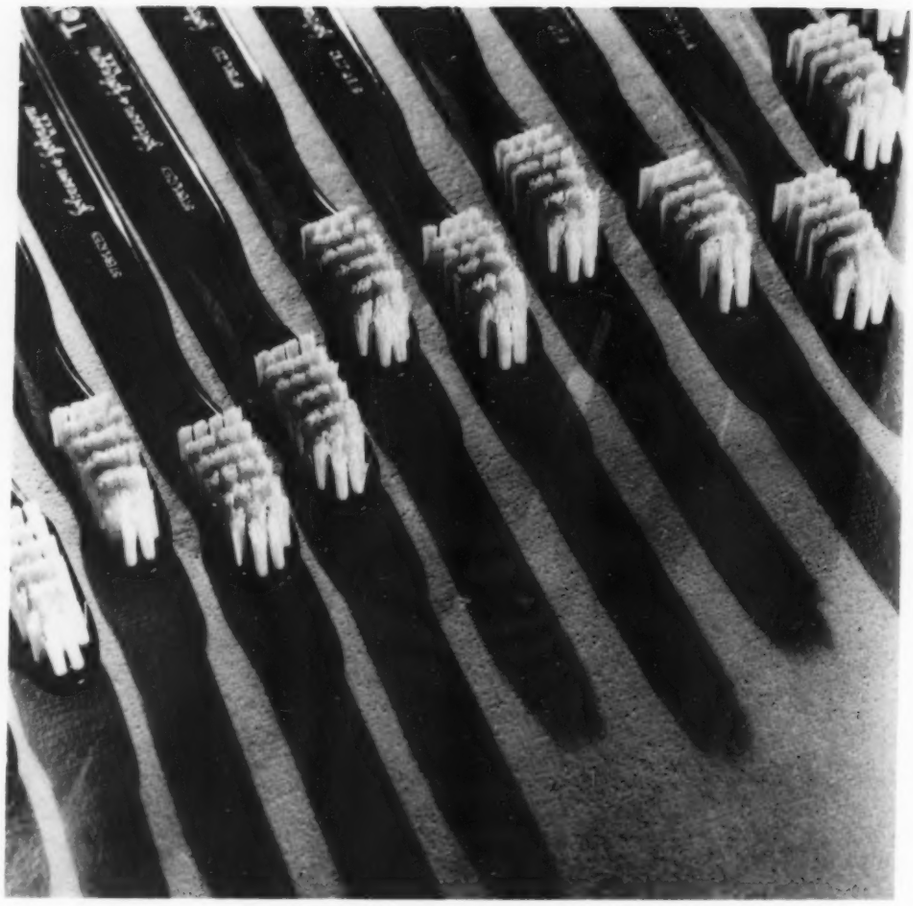

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Better Paper Warren's Standard Printing Papers *Better Printing*

Kodak Fluorescence

(*from page 33*)

for both the "red" and yellow printers. The "blue" and black printers are made with white light falling on the copy. The Kodak Fluorescence Process is not used for making drop-out highlights.

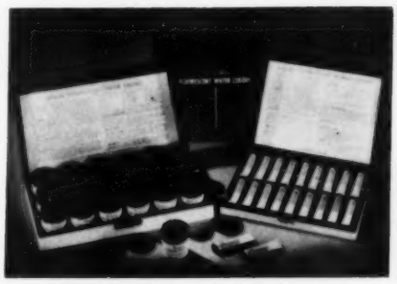
With this brief resumé of the process we take up in order the making of the sketches with Kodak Fluorescent Water Colors, setting up and adjusting the Kodagraph Copyboard Hood, and the making of the color separation negatives.

Kodak Fluorescent Water Colors

The Kodak Fluorescence Process is based on the use of these special water colors. The complete set of eighteen colors provides a sufficiently wide selection for all requirements, but includes only those which can be reproduced with the best four-color printing inks. To those who have constantly sought brighter artists' colors in the hope of improving color separations, the first glance at Kodak Fluorescent Water Colors will be a disappointment. In this set, many of the brighter colors have been intentionally and carefully grayed to match the colors obtainable in four-color process printing. The bright fluorescence which fully takes care of color correction is invisible in ordinary light, but makes a striking display when examined in a darkened place under fairly strong ultra-violet rays. In the Kodak process, this fluorescence is actually photographed on the separation negatives to be color corrected. Furthermore, the Colors are designed to render a satisfactory black printer with an infra-red plate. Fluorescence has been so proportioned in the various colors that each bears the proper photographic relationship to the others. This fluorescence makes it possible for the photographer, with properly filtered illumination on his copyboard, to obtain accurate color separations.

The following list of colors is supplied in complete sets of one-ounce jars and ¼-ounce tubes. Any colors can be obtained separately in either size.

No. 1 Cold Yellow	No. 10 Peacock Blue
No. 2 Warm Yellow	No. 11 Green-Blue
No. 3 Orange	No. 12 Green
No. 4 Orange-Red	No. 13 Yellow-Green
No. 5 Crimson	No. 14 Raw Sienna
No. 6 Rose	No. 15 Burnt Sienna
No. 7 Red-Purple	No. 16 Burnt Umber
No. 8 Violet	No. 17 White
No. 9 Warm Blue	No. 18 Black



Sets of eighteen Kodak Fluorescence Water Colors are supplied in 1 oz. jars or ¼-oz. tubes.

SKETCHES are made with these colors in the regular way, as the fluorescence is invisible in ordinary light. The colors may be diluted with water to make transparent washes, or mixed with the white of this set for opaque effects. These colors work well in the air-brush. Only colors adjacent to each other in the list should be mixed to get a required hue. For example: for a bluish-green, mix No. 2 Green with No. 11 Green-Blue. Do not add yellow to No. 11 Green-Blue. Grays should be confined to combinations of the black, browns, and white. Grays made by mixing complementary colors will not reproduce well in this process and will not be recorded in the black plate. The colors and the brushes should be kept away from the lips, mouth, or open cuts.

Design Complementaries

The following pairs of paints are approximate after-image complementaries—giving the greatest mutual enhancement illusion when placed side by side: No. 1 Cold Yellow—No. 8 Violet; No. 2 Warm Yellow—No. 9 Warm Blue; No. 3 Orange—No. 10 Peacock Blue; No. 4 Orange-Red—No. 11 Green-Blue; No. 6 Rose—No. 12 Green; No. 7 Red-Purple—No. 13 Yellow-Green.

Process Hues

No. 1 Cold Yellow, No. 6 Rose and No. 10 Peacock Blue correspond in hue and brilliance to the best process inks on the market.

Surfaces

White art papers and boards as free as possible from inherent fluorescence should be used, such as Whatman C. P., Chimatco Board, some smooth bristol boards and clay coated card stocks. If gray or colored paper is used, the color correction will not be satisfactory.

If any paint is contaminated by adding other colors not close to it in the color circle, its fluorescence, and consequently the reproduction, will be thrown out of balance. Never mix paints of other makes with the colors of this set, and do not make a sketch partly with these colors and partly with others. Such additions would appear as conspicuous defects in the reproduction.

Sketches can be judged in a darkroom or closet by ultra-violet light. A suitable light source is a 100-watt mercury tube, such as the General Electric B-H4 Lamp, which has an outer envelope of deep purple, ultra-violet transmitting glass. The most suitable papers may be selected under this light and defects in the fluorescence of the sketch detected, such as dark spots, unevenness, and the effects of alterations. The Kodagraph Copyboard Hood, later to be described, may also be used for examining sketches. *Do not expose the eyes for long periods to ultra-violet rays.*

Practical Fastness

These colors are sufficiently fast for making sketches which are to be reproduced within a reasonable length of time. While the colors are moderately stable, they cannot be recommended for permanent fine-arts work or for long exhibition in daylight or ultra-violet light. For maximum color stability, sketches should be kept in a dark place. Each complete set of colors is packed in an attractive box, with instructions printed on the inside of the hinged cover for convenient reference by the artist. The containers should be kept closed when not in use.

Kodagraph Copyboard Hood

The Kodagraph Copyboard Hood is an apparatus for providing a mixture of ultra-violet and blue-violet and green light in the right proportions, utilizing the regular

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white flame arc lamps which are ordinarily placed alongside the process camera. In two sides of the hood flanking the copyboard and in front of the arc lamps are filter units, each consisting of four ultra-violet transmitting glass filters; in the unit each pair of filters is separated by a channel covered with an adjustable slit. Between these filters and the arc lamps is a panel of ultra-violet transmitting ground-glass which diffuses the light. The rest of the hood covers the copyboard and excludes most of the extraneous light. It is set on wheels so that it may be conveniently moved out of position if the camera is to be used for work not requiring ultra-violet light.

Complete instructions for setting up the hood are packed with the apparatus. It may be fitted to various types of process cameras, such as gallery and darkroom cameras, and also the overhead type. In the case of cameras where the hood will not fit conveniently the side panels containing filter units may be purchased separately, and the hood built around the copyboard by the camera operator himself. For process cameras with single arc lamps, one filter unit is provided on either side of the hood. Two filter units are supplied for each side of the hood in the case of doubledeck arcs.

The following accessories are supplied with the Kodagraph Copyboard Hood:

1 Blue glass filter (in two pieces) for each filter unit.
3 Magenta compensating filters having densities of 0.05, 0.10 and 0.20 respectively for each filter unit.
3 Yellow compensating filters having densities of 0.05, 0.10 and 0.20 respectively for each filter unit.
1 Metal strip for each filter unit to cover the slit if ultra-violet only is required.
1 4″ Square Wratten No. 34A Filter for use over the camera lens.
2 5″ x 7″ sheets each of fluorescent color patches, white color patches, and black density patches.

For adjusting the copyboard the following extra items are desirable:

1 General Electric exposure meter.
1 No. 597 Corning filter (1″ x 2″ and 5 mm. thick).
1 Wratten No. 29 Filter bound up with a neutral density filter (0.30).
1 1-inch square combination of Wratten No. 43 Filter and Wratten No. 34A Filter.
1 1-inch square combination of Wratten No. 45 and No. 8 Filters.

Checking White Flame Arc Lamps

THROUGHOUT the Kodak Fluorescence Process, the arc lamps should be turned on for 30 seconds before taking readings or making exposures. If direct current is used, the arcs should be checked for polarity. This may be accomplished by turning on the arcs for 30 seconds, then turning them off, and examining the carbons. The one with the brighter afterglow represents the positive. This should be in the lower position, since this increases the amount of ultra-violet light. If the positive carbon is in the upper position, this condition can be reversed by simply changing the terminals in the lamp.

It is important to check the red and ultra-violet filter intensity of the arcs. For this purpose an exposure meter may be set at a distance of nine feet, and pointed at the lighted arcs. A reading is taken with the Number 29 Wratten Filter plus a 0.30 Neutral Density Filter over the meter. Readings are repeated with the Number 597 Corning filter over the meter. The arcs are allowed to burn for at least 30 seconds and several readings are then made at ¼ minute intervals. The figures for both the red filter and the ultra-violet filter should be within plus or minus 10 per cent of average for all the arcs. If not, the arcs should be checked and adjusted by an electrician. Very often they simply require cleaning to bring about proper balance.

The next step is to examine the copyboard to make sure the illumination is even. This is done by taking readings with an exposure meter. Mount a sheet of white paper on the copyboard and place the meter six inches in front of it. With a single pair of arcs, readings should be taken 15 inches to the right and left of the center of the copyboard. With doubledeck arcs, check at the four corners of a 30-inch square. Here again filters should be placed over the exposure meter; first, with the Wratten Number 29 and the 0.30 Neutral Density Filter, leaving the ultra-violet windows open, and second, with the Number 597 Corning Ultra-violet Filter and the ultra-violet windows closed. Slight unevenness may be corrected by varying the distance of the arc from the filter unit. In case of serious differences an electrician should be consulted.

Adjustment of Filter Units

It is now necessary to adjust the filter units in order to allow the correct ratio of ultra-violet to visible blue-violet and green light to fall on the copy from each of the arc lamps. This is made possible by varying the width of the central slit between the pairs of ultra-violet filters and by inserting magenta or yellow compensating filters in the inner channels behind the narrow blue filters in the outer channel. The proper balance is determined by an examination of the white and fluorescent control patches on the copyboard through appropriate filters. The compensating filters are supplied in three densities each: .05, .10 and .20. A metal strip may be placed in the channel when only ultra-violet light is used. The lever controlling the adjustment of the central slit is set over a scale, each division of which indicates a change of about 10 per cent in the amount of light admitted.

For making the original adjustments, mount one-half inch square of the fluorescent and white control patches on the center of the copyboard. Slide the ultra-violet windows into position in front of the arc lamps. Insert the blue glass filter, which comes in two pieces, in the channel nearer the lamps. Turn on any one of the lamps, leaving the others entirely off or placed in such a position that light will not fall on the copyboard.

1. Examine the control patches by looking through the Wratten No. 45 plus the No. 8 Filters which have

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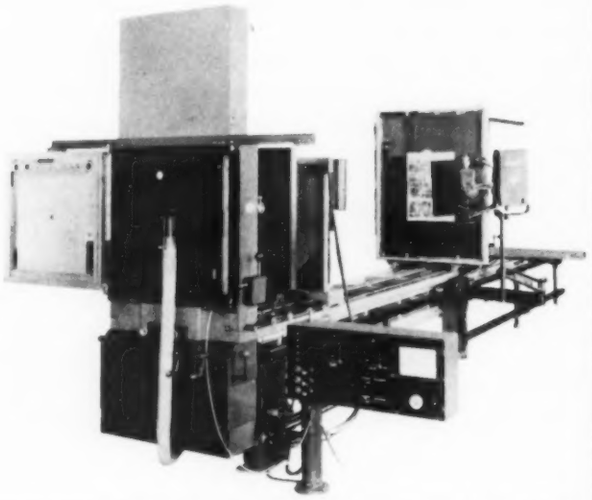

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been placed one over the other. If the fluorescent and white patches do not match in brightness, adjust the slit in the filter unit until they do.

2. Examine the control patches through the Wratten No. 43 and Wratten No. 34A Filters placed together. If the white patch is darker than the fluorescent patch (indicating insufficient blue light) add a magenta compensating filter in the channel nearer the copyboard. On the other hand, if the white patch is brighter than the fluorescent (indicating too much blue light) add a yellow compensating filter in the channel.

3. Re-examine through the Wratten No. 45 plus No. 8 filters and if necessary, readjust the slit.

4. Re-examine through the Wratten No. 43 plus the Wratten No. 34A Filters. If the white patch is darker than the fluorescent patch, reduce the yellow compensating filter density or if no yellow is present, increase magenta compensating filter density. If the white patch is brighter than the fluorescent, reduce the magenta compensating filter density, or if no magenta is present, increase yellow compensating filter density.

5. Repeat steps 3 and 4 until the white and fluorescent patches match through both filters.

Making Separation Negatives

AFTER the copyboard has been set up and adjusted, the equipment is ready for making the separation negatives. With four arcs, mount the copy with largest dimension vertical. With two arcs, mount with largest dimension horizontal. In the four corners of the copy one-half inch squares of the fluorescent, white, and density control patches are mounted side by side. In addition to the control patches, register marks and the gray paper scale of the Eastman Color Separation Guide are placed beside the sketch. The gray scale will be uncorrected and will therefore reproduce as a brown in the proof, but a tone reproduction curve may be plotted from it. The contrast of the gray scale should not be the same in the different color separation negatives. The white and density control patches are used as a check on contrast and should be balanced at least in the "red," yellow, and "blue" negatives.

To obtain accurate color correction, with the proper inks, the fluorescent control patch should match the white in density in both the "red" and yellow negatives. If inks of inferior color are used, or if they are printed too strong, the slit must be narrowed down so that the fluorescent control patch has a somewhat higher density than the white control patch in these two negatives.

In order to keep the exposure times down to a minimum, we are recommending the use of continuous tone materials.

As stated before, only two plates are made with the ultra-violet light exposure—the "red" and the yellow printers. These separations are made on the Eastman Super Ortho Press Plate Anti-halation. For the "red" plate the K-2 (Wratten No. 8) Filter should be used, and for the yellow plate a special filter known as the Wratten No. 34A Filter. In the case of the "blue" and the black plates, the ultra-violet filter windows are lowered from in front of the arc lamps and exposures are made by white light. For the "blue" printer the Wratten Panchromatic Plate Anti-halation with the Wratten No. 29 Filter is satisfactory, while for the black record, the Eastman Infra-Red Sensitive Plate Anti-halation with the Wratten No. 88A Filter should be used.

As an aid to operators using the Kodak Fluorescence Process, the following exposure data should prove helpful.

Printer	Plate	Filter	Exposure	Filter Window	Development
"Red"	Super Ortho Press	K2 (No. 8)	90 sec. f.22	Closed	7 min., D-11
Yellow	Super Ortho Press	No. 34A	60 sec. f.22	Closed	8 min., D-11
"Blue"	Wratten Panchromatic	F (No. 29)	10 sec. f.32	Open	4 min., D-11 1-1
Black	Infra Red Sensitive	88A	90 sec. f.32	Open	4 min., D-11 1-1

Find No Hazard in Spray Guns

According to a recent survey conducted by the Graphic Arts Spray Manufacturers in eleven New York City printing plants, no health hazards exist in the operation of spray guns under average conditions. Results of the survey indicated that dust concentrations average no more than those found in some Chicago and New York streets and amounts of alcohol are so small that readings could not be obtained within the breathing zones of the pressmen. A complete absence of free silica in dust caused by operation of the spray guns was also revealed in the survey, and no harmful ingredients were found in the spray solutions tested. Manufacturers of spray solutions whose products were included in the survey were Triangle Ink & Color Co., Sprayomatic Products Co., Paisley Products, Inc., Frazier Processes, Inc., Delany & Co., Craig Corp., Binks Manufacturing Co. and Beach Nonpareil Compound, Inc.

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Offer New Lithography Course

The School of Business of the College of the City of New York has announced a new course entitled "Selling Lithography" to be conducted by William Wolfson beginning November 13th. Mr. Wolfson was formerly with Ardlee Service, Inc., New York, and has been closely associated with the photo-lithographic field for many years. The course will consist of eight 2-hour sessions and the tuition fee will be $6.50. Further information may be obtained from Dr. R. A. Love, City College, 17 Lexington Avenue, New York.

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Raw Materials Symposium

(*from page 31*)

battleships, camouflage, etc. This leaves them with only a small portion of their equipment to manufacture lead chromates. Of course, you realize also the difficulty they have in expanding their production on account of the fact that it is very difficult to obtain machinery at the present time.

Carbon black has increased 21%; Alumina Hydrate has increased 16%; Titanium dioxide, which is the chief white pigment used in the manufacture of opaque white inks, especially for lithographic trade, has increased 7.2%.

Now, on the list of vehicles, we find that linseed oil has increased 30%, chinawood oil, 17½%, and Oiticica Oil, 26%.

These facts have made it imperative that we bring the subject before you, not with the idea of being alarmists or trying to stimulate an increase in prices, but simply to tell you what the situation is and to tell you that we are trying to cooperate with the national defense program and are doing our buying according to a planned system. The dryers have increased 36%. As you know, lead, cobalt and magnesium are all on the priorities list. They are difficult to obtain and will become more so as the situation grows.

We have tried to attack this problem from another angle, because, being fabricators of raw materials, we have attempted for the last six months to a year to search around for substitute materials which will not affect the quality of the inks. So by careful selection of materials in which the defense industry is not particularly interested at the present time, we may be able to stretch out the supplies of raw materials to the point where the lithographic industry will not seriously feel the shortage of ink.

—**Albert Grunder**
International Printing Ink

Rollers, Blankets

WE have been assured by our suppliers that we will get materials. That is as far as rollers are concerned. The same thing applies to synthetic materials. Another important item is fabric. The blanket situation has exceeded our anticipations so we had to order more fabric than originally contracted for. We were told our orders would be filled but would cost twenty per cent more. In the last six months the cost of fabrics has increased 35%. That is a part of the total cost of blankets, so in view of that we have had to increase the price approximately 10%. We feel we are in a position to supply you with blankets, not only this year, but during 1942, providing something unforeseen does not arise.

—**B. P. Nilles**
Rapid Roller Co.

ANYONE today who will make a prediction about getting materials such as synthetic resins, certainly is a confirmed optimist. I know of nothing, outside of metals, that is quite as important and vital in defense work as some of the synthetic resins. Of course, that applies to rollers. That brings us to the question of whether or not our company—and I speak only for our company—is going to be able to supply materials such as go into rollers. We do not make blankets.

In order to answer that question, I thought it would be best to bring you some real first hand information. We have received many inquiries. I have with me today one of these inquiries, together with our reply, which I would like to read because it answers everything you want to know so far as the situation is today. Tomorrow it may change.

This letter I am going to read now is addressed to our President:

"The greater part of our development work on synthetic rollers has been done with your company. While we have had the assurance of your representatives that you have ample supplies to take care of our requirements, we would like very much to know whether there are any assurances you can give us regarding the supply of your products during the coming and present emergency."

That is a fair question. Here is our reply to that letter:

"As to what assurance we could give you as to our ability to take care of your requirements from the standpoint of supplies, our reply is that we helped develop some of the most important materials used in these rollers, and for that work we were given a year's exclusive use of materials for use in rollers. Since that time, these materials have become worldwide and used for a number of different purposes. When it came to a question of priorities on these materials, we were recognized by the government as having helped pioneer this material, especially for rollers. This position is still maintained by the government because they believe it is sound and fair. It was pointed out to the government, and they recognized it, that development work sometimes takes several years before it yields any fruition, and any changes would require retracing a lot of this work and would cause a loss, not only to us, but possibly even a greater loss to the printer.

"So you may have the same assurance as we do that the materials will be forthcoming, and for more tangible encouragement, the companies that manufacture these materials anticipate no shortage."

That is the viewpoint of the management of our company. However, so far as costs are concerned, you can look for anything. I do not know.

—**H. S. Hunt**
Dayton Rubber Mfg. Co.

Fabric

THE picture is briefly this regarding cotton: Our suppliers of cotton material won't sign a contract that cannot be cancelled in case the government needs the material. We are trying to do everything we possibly can to keep you supplied, and we hope you will keep faith with us.

—**H. H. Colehower**
Godfrey Roller Co.

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Marks 25th Year With Taubers

Tauber's Bookbindery, New York, paid tribute with a dinner last month to Hyman Schwartz on the 25th anniversary of his association with the company. Mr. Schwartz was prominent in the development of Tauber-Tube Bindings and other services offered by the company.

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by Donald Nicholson

Production Manager of Ronalds Offset Lithographers, Ltd., Montreal, Canada, and contributor to Modern Lithography.

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LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents in coin or U. S. stamps. Address the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio. Original articles cannot be furnished except as photostatic copies at 20 cents per page.

Photography and Color Correction

Ilford Manual of Process Work. (Book.) L. P. Clerc., Percy Lund Humphries & Co., 12 Bedford Square, W. C., 3rd ed., 422 pages, 8s. 6d. This book has been revised to bring the material up-to-date, as much progress has been made since the first edition was written. The *Ilford Manual* gives much practical guidance and detail for the worker, but an important part of its value is in its complete references. (*Process Engravers' Monthly*, 48, No. 571, July, 1941, p. 189.)

Auxiliaries for the Process Camera. Anonymous. MODERN LITHOGRAPHY, 9, No. 5, May, 1941, pp. 36-8, 63. The purposes and advantages of the following camera accessories are discussed: half-tone screen compensators, flash lamps, screen raising mechanisms, camera backs, arc light carriages, and diaphragm and shutter controls.

Vitamin D Speeds Photographic Processes. C. M. Carlisle. *Photo-Engravers' Bulletin*, 30, No. 12, July, 1941, pp. 57-63. The ultraviolet portion of the spectrum has been utilized by other industries in many ways, but process photographers are just beginning to take advantage of it in the Fluor-a-Tone and Drop-a-Tone Processes. In the Fluor-a-Tone Process, specially prepared fluorescent materials are employed in the preparation of wash drawings and air brush work. Highlight negatives are then made by using the correct filter in making the second exposure after removing the screen. A wratten gelatine filter is used with Fluor-a-Tone Pigment and a Fluor-a-Tone glass filter is used with Fluor-a-Tone Medium.

Commercial Photography—Developers. George L. Wakefield. *Process Engravers' Monthly*, 48, No. 570, June, 1941, pp. 180-1. Development can be so standardized that a simple mechanical routine can be followed which will give good results without any thought about the chemical reactions involved. It is helpful to the photographer, however, to understand some of the principles involved, particularly in out of the ordinary work. The four developers in common use are metol, hydroquinone, amidol, and pyro. With combinations of these almost any desired result can be obtained. The metol-hydroquinone combination can be used for most work, but other combinations can be used to advantage under certain special conditions.

Commercial Photography—Fixation. George L. Wakefield. *Process Engravers' Monthly*, 48, No. 571, July, 1941, pp. 206-7. The fixing bath removes the undeveloped silver halides, thus clearing the creamy opalescence from the image and preventing the image from "fading" by further reduction of the halides to metallic silver. A 40% solution of hypo may be used for speed work for plates and films, but 30% is the maximum for prints. The addition of an acid salt such as potassium metabisulphite (1) neutralizes any alkali carried over from the developer, (2) prevents the formation of colored oxidation products of the developing agent, and (3) decolorizes any such oxidation products which may have started forming in the emulsion. In warm weather chrome alum may be added to harden the gelatine. A formula for the fixing bath is given. The fixing time, and the length of time a bath may be used before it goes stale are also discussed.

Basic Factors in the Reproduction of Tone Values. Elbert M. Ludlam. MODERN LITHOGRAPHY, 9, No. 8, August, 1941, pp. 23-26. Before designing a continuous-tone screen to give desired results, one must understand the basic factors in reproduction of tone values of half tone. The variation in over-all absorption of light by the variation in dot size, and the mechanism of dot formation with the ruled screen are explained with diagrams. The difficulty in achieving accurate tone reproduction is inherent in the ruled screen presses, and photographic materials should not be blamed. In continuous-tone screens the dot gradation can be predetermined and fixed.

Planographic Printing Surfaces and Plate Preparation

Detection of Small Amounts of Proteins on the Surface of Metal Plates. J. H. Young. *Analyst*, 65: 564-65, October, 1940. A modification of Cross and Bevan's (J. Soc. Chem. Ind., 27: 260, 1908) chloramine method for the detection of small amounts of gelatin sizing in paper and for showing localized spots of gelatin is used for the detection of protein on lithographic printing plates. A portion of the cleaned plate is subjected to moist chlorine gas (Cross and Bevan used hypochlorous acid solution), in order to chlorinate the protein. After the strip has been washed, excess chlorine and hypochlorous acid are destroyed

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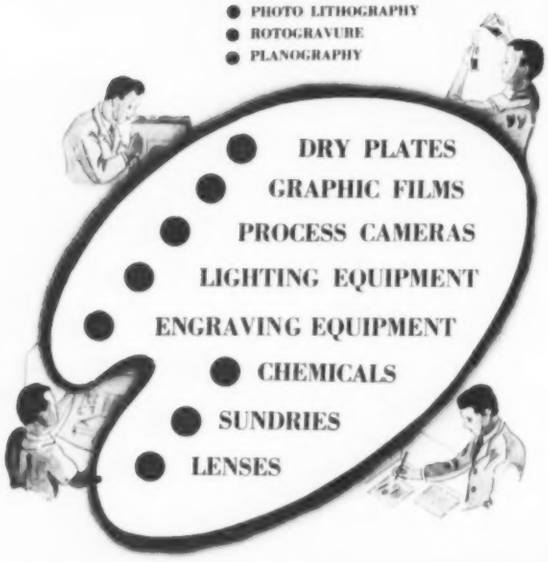

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with sodium dihydrogen phosphate at 45° to 50° C. Specks of protein matter are then stained dark blue by treatment with a 1 per cent potassium iodide solution containing 0.1 per cent of starch. (*Monthly Abstract Bulletin of Eastman Kodak Company*, 27, No. 2, Feb., 1941, p. 65.)

Stainless Steel. Don Nicholson. MODERN LITHOGRAPHY, 9, No. 8, Aug., 1941, pp. 35, 38, 41-2. The differences in technique and the advantages and disadvantages involved in using stainless steel plates are thoroughly discussed. In graining, large steel marbles and carborundum may be used. With albumen plates the old image may be removed chemically and the plates reused without additional graining. The same formulas as for zinc may be used with some variation in coating technique. The fountain etch can have a very low pH or also, in other cases, it may contain practically no acid. One of the greatest advantages of stainless steel is its extremely high resistance to corrosion or oxidation, making it easier to store, and greatly lowering the danger of contamination of the inks or fountain solution. Another advantage is its high affinity for water which enables the plates to be run with a minimum of dampening.

Stainless Steel. Kenneth W. Martin. MODERN LITHOGRAPHY, 9, No. 8, Aug., 1941, pp. 34-5. Three factors have tended to prevent the use of stainless steel for offset printing, namely, (1) high first cost, (2) excessive weight and stiffness making the metal difficult to handle in large sizes, and (3) the lack of availability in the sizes and gauges needed. Stainless steel plates, however, will last longer than zinc or aluminum ones, and the second factor is not so important for small plates. In ordering steel the following specifications are important. It should have an analysis of 18% chromium and 8% nickel; a smooth, but not necessarily polished, surface; and should be cold rolled, annealed, and pickled. The curl which steel plates acquire during graining may be removed by curling them in the opposite direction.

Equipment and Materials

The New Small Rotary Presses Come into Their Own. William Barton Marsh. *Paper Progress*, 5, No. 1, Aug., 1941, pp. 10-12, 25-6. The new web-fed presses run at amazing speeds and can be built to perform any number of operations between feeder and delivery. Web offset is gaining popularity, but new web rotary presses which print from electrotypes and rubber plates are also being used. Combinations of letterpress, offset, and gravure can be run on the same web-fed press. These new presses bring their own paper problems. The rolls must be evenly wound and must be handled carefully. The paper must not contain too much alum. Lint, uniformity in thickness, and moisture content must be carefully controlled. The ink must dry very rapidly.

Paper and Ink

How the New High Speed Presses Affect Paper. William Barton Marsh. *Paper Progress*, 4, No. 12, July, 1941, pp. 8-9, 24. The new high speed presses make greater demands upon the paper to be used. Old paper problems are accentuated by increased speed of operation. Light porous stock is difficult to feed and heavy stock is apt to bounce off register. In the delivery end the danger of offset is increased. Much has been done in press construction to overcome these difficulties, but the paper must be carefully selected to meet the required specifications.

Moisture Content and Regain of Coated Papers. J. D. Davis. *Paper Trade Journal*, 113, No. 2, July 10, 1941, pp. 35-9. Tests on factors affecting equilibrium moisture show the effect of base stock-coat ratio to be as calculated. Ten per cent satin white in a coat comprising 33 per cent of the total weight raises the moisture test nearly 1 per cent and 10 per cent casein raises it 0.3 per cent under the particular conditions of the test. The rate of moisture regain is highest for base stocks, followed by C1S (coated one side) and, finally C2S (coated two sides). The initial condition of the sheet is the most important factor determining the rate, followed by the velocity of the air. Basis weight has a slight effect, while type of coat and calendering have none. The regain can amount to 0.5 per cent moisture for 5 seconds exposure which is common in a mill. With average air circulation, equilibrium is reached within at least 3 hours for most C2S sheets and within about 1 hour for base stock.

Lithographic Breakdown. Herbert Jay Wolfe. *American Ink Maker*, 19, No. 8, Aug., 1941, pp. 27, 29-30, 39. The causes and methods of preventing lithographic breakdown are discussed in detail. Breakdown is associated with the preferential wetting of the pigment particles by the dampening solution instead of the ink vehicle. This may happen because the pigment is hydrophilic, because the vehicle is too thin or has too low an acid number, because the ink has not been allowed to age sufficiently, or because there is too much acid or gum in the fountain solution. Lithographic breakdown tests are described. One which can give numerical results is of most value. Cooperation of the dry color manufacturers, varnish makers, and lithographic pressmen would help the ink maker in preventing this evil.

Requirements of Base Papers for Varnish Coatings. Victor A. Ryan. *Paper Trade Journal*, 113, No. 8, Aug. 21, 1941, pp. 31-5. Base papers, which are to be subsequently coated with baking varnishes, cannot be evaluated satisfactorily with the present conventional methods of paper testing. With the knowledge that, in papers of this class, the resistance of the fibers to devitalization or embrittlement under the influence of heat is the property of paramount importance, it is shown that the Weller brittleness test for paper is a suitable method for the measurement of this property and that, when it is used in conjunction with Gurley

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density and pH value, it permits the setting up of requirements for base papers which will more completely indicate their probable performance in actual varnishing service.

Paper Trade Terms. (Book.) William Bond Wheelwright. Callaway Associates, 210 South Street, Boston, Massachusetts. 40 pages, paper bound, 50c. Callaway Associates . . . have just published "Paper Trade Terms" by William Bond Wheelwright, an illustrated glossary containing 575 definitions . . . This is the only illustrated dictionary of paper ever published. (MODERN LITHOGRAPHY, 9, No. 8, Aug. 1941, p. 43.)

Types and Characteristics of Coating Starches. Glenn E. Price. *Paper Trade Journal*, 113, No. 3, July 17, 1941, pp. 16-8. Casein and starch are contrasted as binders for pigment coating especially from the standpoint of replaceability. The method of cooking starch products so as to secure the full binder action is explained. Various types of starch products are compared for their suitability as replacement for casein, and in this field chlorinated gums are distinctive.

Paper Troubles. Edwin Sutermeister. *Paper Progress*, 5, No. 1, Aug., 1941, pp. 9, 28-30, 32. The printer is apt to blame the papermaker for troubles in which the paper is not at fault. Sometimes contradictory specifications are given. The faults which occur in paper are listed and the troubles which may be due to the paper or may also be due to something else are discussed. If the printer would give the papermaker all the facts on troubles which arise, the latter would be much better equipped to aid in discovering the source of the trouble and in solving it if the paper is at fault.

Offset Paper at Work. William Bond Wheelwright. MODERN LITHOGRAPHY, 9, No. 8, Aug., 1941, pp. 42, 43. Defense restrictions necessitate greater economies in paper use. Much can be done in considering the thickness of the paper as well as its length and width. A table of approximate bulks of book papers of typical finishes is shown. The tendency to "pick" of higher bulking papers and the "soilability" of the rougher finishes, however, must be taken into account. Whenever a medium or rough finish paper can be employed, a sheet of satisfactory bulk can be used at a considerable saving in ream weight.

Inks and Their Relation to Paper. George Cramer. *Paper Trade Journal*, 113, No. 7, Aug. 14, 1941, pp. 34-8. Paper surfaces, coated and uncoated, are considered and investigated from the ink man's point of view. The topic of discussion is centered around the application of inks by the three graphic processes, namely, letterpress, lithography, and gravure. In each case, drying, penetration, smoothness of lay, and color values are considered.

General

Photolitho Developments. J. S. Mertle. *Graphic Arts Monthly*, 13, No. 7, July, 1941, pp. 30, 32, 34, 36. The author briefly discusses recent developments and trends in the photolithographic field, including photo-typesetting, diaphragm controls, the fluorographic process, methods of dot etching, and wetting agents in developing.

Practical Photo-lithography. (Book.) C. Mason Willy. Sir Isaac Pitman & Sons, London, W. C. 2, England. 3rd ed. 12s. 6d. net. In this edition C. M. W. has brought his information fully up-to-date in every particular, and this is specially noticeable in the details given regarding poster work by projection. Methods of making the enlarged negatives on paper or film as well as by direct enlargement from continuous-tone and from screened originals onto bichromated metal plates are explained. Studio work, wet plates, dry plates, screen dot control, irregular grain work, "Paratone" tint work, colour work, duplicating surface image and deep-tone, preparation of metal, printing down formulas, special apparatus, step and repeat systems, etc. Nothing is overlooked, and there is a very good reference index. The illustrations are plentiful, and type matter well set as with all books from the house of Pitman. (*Process Engravers' Monthly*, 48, No. 570, June, 1941, p. 179.)

Weather Bureau Lithography. H. J. Stevens. *Lithographers' Journal*, 26, No. 4, July, 1941, p. 149. The daily weather map put out by the Weather Bureau is lithographed in a minimum of time. The temperature lines and barometer lines are traced on glassine paper. Irregularly shaped patches of tint corresponding to outlines of precipitation areas are cut out of a stock cellophane sheet and placed in position. Forecasts and reports are typed on cellophane and then all the sheets are superimposed in register on a blue stock map of the continental United States. From the composite positive thus formed, a deep-etched aluminum plate is made within 20 minutes from the time that the lights are flashed on the printing frame.

Over-pressure on the Offset Press. John Stark. *Lithographers' Journal*, 26, No. 4, July, 1941, pp. 147, 169; No. 5, Aug., 1941, pp. 191, 215. The author discusses a six-year-old British patent* to V. F. Feeny which advocates making the diameter of the blanket cylinder smaller than that of the plate and impression cylinders. When the over-pressure is distributed equally between the plate and blanket cylinders, the depression in the blanket at the contact tends to speed up the blanket and cause creep. Many pressmen refuse to consider this idea since, they say, the old method has worked all right. Perhaps, however, this "creep" has been the cause of failure of the grain to hold up on a long run. Many of the newer presses are being made so that this method can be carried out. (*Probably *British Patent* No. 443,354 to V. F. Feeny, communication from Miehle Printing Press and Manufacturing Company, accepted Feb. 26, 1936.—Abstractor.)

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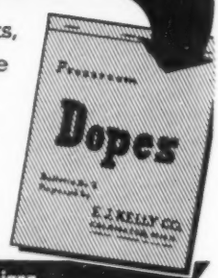

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Of Making of Maps. E. D. Doe. *Printing*, 65, No. 7, July, 1941, pp. 28-9. One of the most intricate jobs in the graphic arts is the making of road maps. As many as 2000 changes may have to be made in one map when new editions are being put out. Each proof must be carefully checked. Some of the work done by the Gousha Company, which makes the Shell road maps, is described.

Decalcomania Transfer and Method. Roy C. Beck (to Vitachrome, Inc.). *U. S. Patent* No. 2,248,213 (July 8, 1941). In a decalcomania transfer, the combination of: an absorbent mounting sheet; a separation coat on said sheet of sufficiently high normal viscosity to prevent absorption thereof by the mounting sheet, said coat being sufficiently soluble relative to the absorptive capacity of the mounting sheet for substantially complete absorption into the mounting sheet when a solvent for the separation coat is applied to the mounting sheet; a design coat on said separation coat; and an adhesive coat on said design coat to cause the design to adhere to an article to which the decalcomania transfer is applied.

A. G. McCormick, Jr., New Pres.

(*from page 21*)

scription of the operations of the Office of Production Management and explained what defense material was being manufactured and why these particular items require the strategic raw materials they do.

As is the custom, the entire morning and most of the afternoon sessions on Saturday were devoted to the NAPL clinic on lithographic production. Presided over by Paul Heideke, Washington Planograph Co., and Summerfield Eney, Jr., Champion Paper & Fibre Co., the following lithographic craftsmen participated: Ted Belitz, American Colortype Corp.; Henry Bruning, Gerlach-Barklow Co.; Fred Burtanger, Reynolds & Reynolds Co.; Harvey Glover, Sweeney Lithograph Co.; Robert Reed, Lithographic Technical Foundation; A. P. Reynolds, Spaulding-Moss Co.; Alfred Rossotti, Rossotti Lithograph Co.; William Beckett, Beckett Paper Co.; Robert J. Butler, Fuchs & Lang Manufacturing Co.; Gus Carlson, Harold M. Pitman Co.; George Cramer, Sinclair & Valentine Co.; Albert Grunder, International Printing Ink Corp.; H. J. Hunt, Dayton Rubber Manufacturing Co.; John McMaster, Eastman Kodak Co.; William Tanner, Jr., Agfa Ansco; I. Thorner, Medo Photo Supply Corp.; and William H. Wood, Harris-Seybold-Potter Co.

AT the luncheon meeting on Saturday the convention heard an address by R. Verne Mitchell, president of Harris-Seybold-Potter Co., on "The Human Side of Lithography." Mr. Mitchell's talk was replete with many examples of the part played by well-known personalities in the industry in shaping the important role which lithography has assumed in the graphic arts. He emphasized the fact that lithography's progress has been due no less to its human relationships than to technological advances, and pointed out that the future of the industry would depend more and more on the human element. The very circumstances surrounding the discovery of lithography by Senefelder, he said, were based on the simple, human act of composing a laundry list. So it has been down through the years if the real truth were known, he said, declaring that each important lithographic discovery has been based on the very human desire for improvement.

In addition to the production clinics, the raw materials symposium and the scheduled addresses, other features of the NAPL meeting were the annual banquet, a trip to the Champion Paper & Fibre Company's paper mill at Hamilton, equipment demonstrations staged at the various exhibitors' display booths, cocktail parties, drawing of door prizes, and the unscheduled appearance of A. E. Giegengack, Public Printer, and other Government Printing Office officials at the Saturday luncheon.

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Discuss Materials Problem

The New York Employing Printers Association held its first regular dinner meeting of the 1941-42 season at the Commodore Hotel, New York, September 29th. The meeting was devoted to a discussion of problems in obtaining raw materials for printing and lithographing production. Among the major speakers were Thomas R. Jones, president, American Type Founders Corp., and also president of the National Printing Equipment Association, who spoke on machinery and parts; Anthony J. Math, Sinclair & Valentine Co., and president of the National Association of Printing Ink Makers, who discussed inks; E. W. Tinker, secretary, American Paper & Pulp Association, who spoke on the paper situation; and Ernest W. Boley, George W. Prentiss & Co.; William H. Finkeldey, Edes Manufacturing Co.; and William H. Street, United American Metals Corp., each of whom discussed various types of metals. Following the speakers, a round table discussion was held and questions answered from the floor.

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Offer Offset Courses

Evening courses in photo-lithography are being offered by the Ottmar Mergenthaler School of Printing, Baltimore, which opened its new term on October 6th. Instruction is given in the use of the camera, developing, opaquing, layout and platemaking. Advanced courses in half-tone and color process work, and deep-etch platemaking are also offered. Anyone employed in the lithographic trade is eligible for admission to the courses. Tuition is free to residents of Baltimore.

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Guin C. Olson, formerly with the Chicago Paper Co., has been appointed president and general manager of the Nackie Paper Co., Milwaukee, succeeding the late Mason B. Olmstead. Mr. Olson was in charge of advertising and sales promotion during his fourteen years' association with the Chicago Paper Co. Other officers are E. Hay Henika, vice-president and W. F. Nackie, Jr., secretary-treasurer.

"WHERE-TO-BUY-IT"

NOTE: This is a classified list of the companies which advertise regularly in MODERN LITHOGRAPHY. It will aid you in locating advertisements of equipment, materials or services in which you are particularly interested. Refer to the Advertiser's Index on page 69 for page numbers. *Say you saw it in Modern Lithography.*

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Maklin Litho Plate Graining Co.
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California Ink Co., Inc.
Crescent Ink & Color Co. of Penna.
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Champion Paper and Fibre Co.
Chillicothe Paper Co.
Fox River Paper Corp.
Hammermill Paper Co.
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Port Huron Sulphite and Paper Co.
The Sorg Paper Co.
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Paper—Continued

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West Virginia Pulp & Paper Co.
George A. Whiting Paper Co.
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Photo Dry Plates and Films

Agfa Ansco
California Ink Co., Inc.
G. Cramer Dry Plate Co. (Photo Dry Plates)
Eastman Kodak Co.
Hammer Dry Plate & Film Co.
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LaMotte Chemical Products Co. (pH Control Apparatus)
Litho Equipment & Supply Co. (Cameras)
National Carbon Co., Inc. (Carbons)
Norman-Willets Co. (Cameras, Lenses, etc.)
Harold M. Pitman Co. (Cameras, Vacuum Frames, Whirlers, etc.)
Rutherford Machinery Co., Div. General Printing Ink Corp. (Cameras, Photo-Composing Machines)
The Senefelder Co., Inc. (Aluminum Plates, Litho Stones, etc.)

Plate Making Services

Graphic Arts Corp.
Knop & Brauer, Inc.
Modern Litho Print Co.
Offset Fine Arts, Inc.
Photo Litho Plate Co.

Pressroom Equipment & Supplies

American Type Founders Sales Corp. (Presses—Offset Spray Gun, etc.)
Sam'l Bingham's Son Mfg. Co. (Rollers)
The Christensen Machine Co. (Bronzers)
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp. (Flannel)
Godfrey Roller Co. (Dampening Rollers)
Harris-Seybold-Potter Co. (Presses)
Ideal Roller & Mfg. Co. (Rollers)
International Press Cleaners & Mfg. Co. (Press Cleaner)
International Printing Ink, Div. of Interchemical Corp. (Flannel, Molleton, etc.)
Kimble Electric Co. (Motors)
LaMotte Chemical Products Co. (pH Control Apparatus)
Litho Equipment & Supply Co. (Proving Presses)
Rapid Roller Co. (Rollers and Blankets)
The Rathbun & Bird Co., Inc. (Machinists)
Roberts & Porter, Inc. (Rollers and Blankets)
Rutherford Machinery Co., Div. General Printing Ink Corp. (Proof and Test Presses)
The Senefelder Co., Inc. (Blankets, Molleton, etc.)
J. H. & G. B. Siebold, Inc. (Rollers, Blankets and Molleton)
Sinclair and Valentine Co. (Blankets)
W. A. Taylor & Co., Inc. (pH Control for Fountain Solutions)
Vulcan Proofing Co. (Rollers and Blankets)

CLASSIFIED

All classified advertisements will be charged for at the rate of ten cents per word. $2.00 minimum, except those of individuals seeking employment, where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of Modern Lithography, 254 W. 31st St., New York. **Closing date: 1st of month.**

Situation Wanted:

A thoroughly competent cameraman and platemaker, now employed as department foreman in large plant, desires permanent connection with small or medium-sized progressive concern that can offer good opportunity for future. Any location considered. Address Box #732.

•

Position Wanted:

Pressman, young married man, 2 years running small Harris and Webendorfer and assistant pressman on large 2-color press for 2 years, all color work. Address Box #733.

•

Wanted:

Two-color offset press, Harris or Miehle, to take a sheet 42 x 58 inches. Apply to the Ronalds Co., Ltd., 6306 Park Avenue, Montreal, Canada.

•

For Sale:

Webendorfer Offset Press, 17 x 22, three years old. Sound running condition. Can be seen on our premises. Northam Warren Corp., Stamford, Conn. Direct inquiries to Mr. D. B. Hills.

•

Situation Wanted:

Litho pressroom foreman, ten years experience. Good production, high quality work. Presently employed. Address Box #714.

•

General Information Concerning Inventions and Patents:

A reference book for inventors and manufacturers, also containing sections on the registration of trademarks and copyrights, and a "Schedule of Government and Attorneys' Fees"—sent free on request. Simply ask for "booklet" and "fee schedule." Lancaster, Allwine & Rommell, Registered, Patent and Trade-Mark Attorneys, 402 Bowen Building, Washington, D. C.

•

Position Wanted:

Artist, thoroughly experienced, designer of proven ability on bank, commercial and color stationery. Reproductions by pen and brush or engraved in a style where quality is required. Box #730.

•

Position Wanted:

Young lady, 20, desires position as opaquer. Two years experience. Excellent silhouettist. New York only. Address Box #731.

•

Save zinc, time and money with a **"Litho-Pencil."** Make corrections, additions and side gauge marks without danger of damaging plates. Sent on ten-day free trial. Price fifty cents. N. C. Sorensen, 3540 the Paseo, Kansas City, Mo.

•

Situation Wanted:

Assistant cameraman, platemaker, line and half-tone, wants position in modern plant. Two years experience. Address Box #739.

•

Position Wanted:

Offset pressman, with years of experience on high-grade color and commercial work, desires steady position on Harris or Webendorfer presses. Address Box #740.

•

Position Wanted:

Pressman's job. Five years experience on latest types Harris presses. Tissue to cardboard. Planograph to Process. Knows inks. Address Box #738.

•

For Sale:

New 22" x 28" Metal Vacuum Printing Frame on stand with pump and motor—$125.00; Twin Arc Printing Lamps, 110 Volt 25-35 Amps.—$30.00; Several 24" cameras with lens, arc lamps, etc. Singer Engineering Co., Complete Platemaking Equipment, 242 Mott Street, New York City.

•

Situation Wanted:

Competent Webendorfer offset pressman-platemaker. Quality work and top production assured. Capable mechanic. Locate anywhere for right opportunity. Address Box #734.

•

Wanted:

A transfer platemaker experienced with Rutherford Photo Composer. Permanent job for capable man. Address Box #735.

•

Cameraman Available:

Positively first-class half-tones. Some stripping and platemaking. Quick worker. Best references. Address Box #736.

•

Position Wanted—Artist

Dot etcher-Retoucher. Experienced. Good worker. Address Box #737.

•

For Quick Sale:

$1,250 cash buys year old 1200 Multilith, rebuilt process camera, lens, screen; platemaking equipment, supplies, 400 plates. Going business. Address Box #741.

•

Wanted:

Small complete offset plant as a going business or would consider buying equipment only. Give full details in first letter. Address Box #742.

•

Offer Graphic Arts Courses

The Division of Graphic Arts of New York University opened its fall term last month with several evening courses for the designer, layout man, printing office staff and executive. Some of the subjects offered are advanced printing design, survey of printing, intermediate and advanced typography, and history of graphic arts. Listed among the faculty are F. M. MacArthur, of the research department, International Printing Ink Corp., and Summerfield Eney, of Champion Paper & Fibre Co.

THERE ARE DEPENDABLE

MERCK PRODUCTS

FOR EVERY CHEMICAL NEED OF THE PHOTOLITHOGRAPHER

MERCK & CO. Inc. *Manufacturing Chemists* RAHWAY, N. J.

New York • Philadelphia • St. Louis

In Canada: Merck & Co. Ltd., Montreal and Toronto

Gale H. Myers, *Pres.*

Offset Fine Arts Inc.

★ *The best equipment and lithographic talent*

418 S. MARKET ST. • CHICAGO, ILL.

LITHO PLATES

ZINC and ALUMINUM PLATES

UNGRAINED—GRAINED—REGRAINED

grained correctly to your specifications . . . . for your special requirements. We are manufacturers of METAL-SHEETS for ROTAPRINT Machines, also square edge plates for Multilith Presses.

THE PHOTO LITHO PLATE GRAINING COMPANY

1207-15 S. Highland Ave. BALTIMORE, MD.

1891 OUR FIFTIETH ANNIVERSARY 1941

We Cover the West Coast

FOR PLATEMAKING EQUIPMENT FILMS AND CHEMICALS

PHOTO PROCESS DEPARTMENT

THE CALIFORNIA INK CO., Inc.

SAN FRANCISCO LOS ANGELES PORTLAND SEATTLE SALT LAKE CITY SHANGHAI, CHINA

● THE JOHNSON HI-LITE STOPS AND METHOD will definitely improve half-tone negatives and retain much of the otherwise lost detail in the lighter and middle tones. The highlights can be dropped out entirely at will. It is easily understood.

Johnson Stop and Indicator Co.

EAU CLAIRE, WIS.

A necessary addition to your technical library

"PROTECTIVE AND DECORATIVE COATINGS". . .

VOLUME I

Covers Oils, Resins, Driers, Thinners and Solvents, Natural Minerals and Ethers—all the necessary raw materials for Varnishes and Vehicles.

Over 800 pages, written by a staff of specialists who work every day with the processes and materials covered; edited by Joseph Mattiello, Technical Director, Hilo Varnish Corp.

The chapters devoted to coating compositions, varnishes and driers are invaluable to metal decorators, ink formulators and lithographers having trouble with varnishes, inks, thinners and dopes.

Price $6.00—Why not send for your copy today?

Please send remittance with order

MODERN LITHOGRAPHY

254 West 31st Street New York City

THE RATHBUN & BIRD CO., Inc.

IN BUSINESS SINCE 1898

MACHINISTS

For LITHOGRAPHERS—PRINTERS

PLANTS MOVED REPAIR SERVICE

MACHINES RE-CONDITIONED

85 GRAND STREET NEW YORK, N. Y.

Telephone: CAnal 6-4145-4146

Hold Advertising Dinner

"Sacred cows" of the advertising world received a good-natured lampooning at the Second Annual Advertising Gridiron Dinner, sponsored by the Chicago Advertising Club, at the Stevens Hotel in that city, on October 15. Patterned after the famous Gridiron Club Dinner in Washington, the Chicago affair spared no one in the fun making. The dinner highlighted the week of October 13 to 18, when six important advertising and publishing groups held meetings in Chicago. Homer J. Buckley, Chicago printer, lithographer and direct mail authority, was chairman of the arrangements committee, while representatives of other lithographing concerns were active on the various committees.

•

Modernize Lighting Equipment

Edwards & Deutsch Lithographing Co., Chicago, has modernized the lighting throughout the executive, sales and accounting offices at its plant at 2320 South Wabash Ave. Use of twenty-two four-tube fluorescent fixtures has stepped-up the light level four-fold, executives report, completely eliminating glare and contrasting shadows.

•

Promote Airmail Greeting Card

Using the slogan "Twelve Hours to Any Point in the Country," Gartner & Bender, Inc., Chicago lithographers specializing in greeting cards and valentines, are promoting a new airline birthday greeting card. A specially designed air mail envelope encloses each card. Nation wide distribution has been arranged for the new product through all greeting card outlets.

•

Describes Letterhead Clinic

"Prescription for Lithographers' Sales," is the title of a new folder just issued by Whiting-Plover Paper Co., Stevens Point, Wis., describing the functions of the company's free Letterhead Clinic. Lithographers are invited to submit letterheads to the clinic for free analysis and rating. A typical example of a report from the clinic offering criticisms and constructive suggestions for the improvement of letterheads is included.

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"Boy, I certainly wish I could have crossed this bridge before I came to it!"

. . . look ahead!

MAYBE you can't cross bridges before you come to them, but you can look ahead in your sales and advertising plans,—the further ahead the better in this day and age.

The present mad stampede to buy everything from soup to nuts will end sooner or later,—and when it ends, then what? Plop! But advertising done now will pay you dividends then,—when you need it most.

With this in mind, we suggest that you give serious thought to expanding your advertising in representative trade publications in 1942. In the lithographic field, the outstanding publication is

MODERN LITHOGRAPHY

254 West 31st Street New York, N. Y.

Tale Ends

AS WE go to press, Donald Nelson, Priorities Director, OPM, gives out the good news that there is no need for priorities on paper "at the moment." Mr. Nelson made the statement following a speech by Norbert A. McKenna, of the civilian supply branch of OPM, urging conservation of paper.

* * *

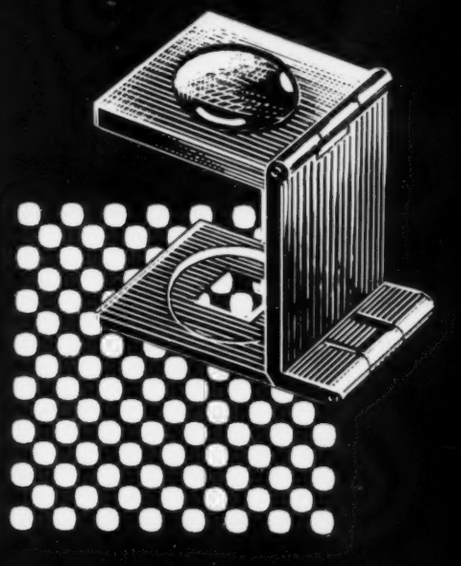
Another late item: The largest shipment of gum arabic on record arrived in New York during the first week of October. While the precise amount of the shipment was not divulged, it was estimated to be close to 3,000,000 pounds. Before the war annual imports ran from 8,500,000 to 9,000,000 pounds.

* * *

Correction: Al Rossotti and the Rossotti Lithographing Co. haven't moved after all. They're still at the old stand in spite of what we said last month. But they're no longer at 1811 Bergen Turnpike, North Bergen, N. J. Just like we said, they're now at 8511 Tonnelle Ave., North Bergen. Only instead of Al moving, as we reported, the township of North Bergen changed the name of the street. We're mighty glad to make this correction because, well, it's proved embarrasing. Not for Al, for *us*. Every time we saw him at the convention last month, which to our sensitive hide seemed like every 3 minutes, he ribbed us about moving his brand-new shiny plant. "He moved me!" Al would shout and point an accusing finger, and we'd duck and run.

* * *

As a bonus to new subscribers, MODERN LITHOGRAPHY is offering a complete set of answers to the technical questions asked at the NAPL Production Clinic. By entering a new subscription now—cost $3.00—a copy of the complete set of answers will be reserved.



How many dots make a half-tone?

THE number of dots in a halftone is a determining factor in the quality of the reproduction. But more than the actual number, the character of each dot is vitally important.

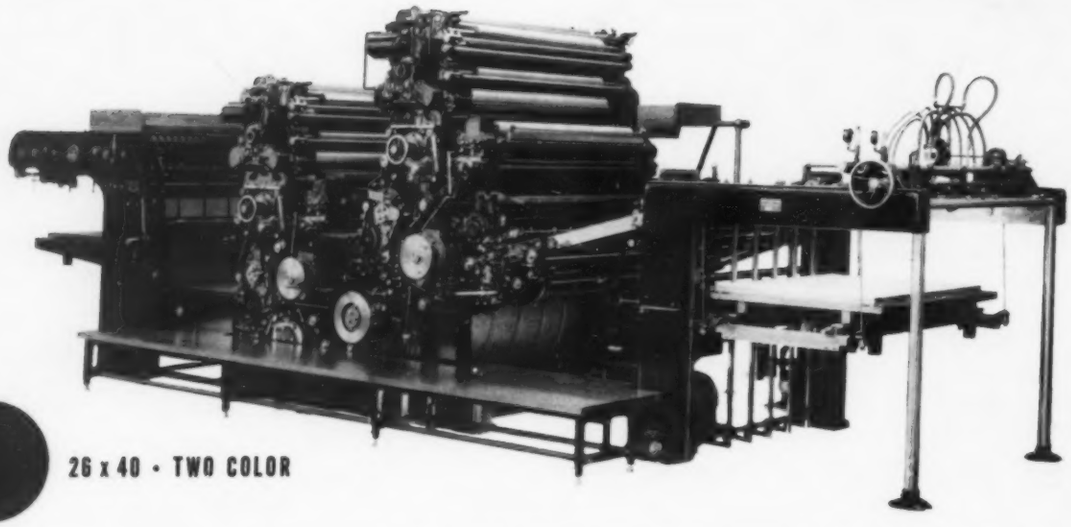
For clear, sharp, dot formation that brings crisp detail in halftone work — your best choice is Agfa Reprolith with its inherently high contrast and great resolving power. In addition, you'll find that this versatile film in its regular, ortho and pan emulsion types brings both "darkroom dependability" with its wide development latitude, and accurate retention of image detail with its effective anti-halation coating.

Next time you order film, be sure to ask for *Agfa Reprolith.* Its extra margin of quality assures finer halftone reproduction. Graphic Arts Division, Agfa Ansco, Binghamton, N. Y.

Agfa Reprolith Films

MADE IN U. S. A.

HARRIS CONTINUES TO *Set the Pace* in Modern Offset



26 x 40 · TWO COLOR

HARRIS LITHO CHEMICALS

Through research, Harris has developed and standardized new chemicals for both deep etch and surface plate making processes. Full details upon request. Write us with reference to your lithographic problems.

Lithographers know the reason for Harris leadership. They see it expressed in the volume of quality sheets turned out on Harris equipment. From every standpoint, the pioneer press—continues to set the pace for quality, effective and dramatic Offset. Lithographers are well aware of this. That's why Harris is their choice in the pressroom.

HARRIS OFFSET PRESSES

·HARRIS · SEYBOLD · POTTER · COMPANY·

PIONEER BUILDERS OF SUCCESSFUL OFFSET PRESSES

General Offices: 4510 East 71st St., Cleveland, Ohio • *Harris Sales Offices:* New York, 330 West 42nd St. • Chicago, 343 So. Dearborn St. • Dayton, 819 Washington St. • Atlanta, 120 Spring St., N.W. • San Francisco, 420 Market St. • Harris-Seybold-Potter (Canada) Ltd., Toronto, Montreal • *Factories:* Cleveland, Dayton